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ABSTRACT

This volume includes material by providers and users of technical agricultural assistance on ways to improve the quality of life for clientele served by land-grant colleges and Tuskegee University. The conference theme involved issues emerging for rural Southern farms as they enter the 21st century. In examining alternatives for the future, the conference considered three major issues: (1) production of food and fiber in response to need; (2) changing employment patterns in the rural and urban South; and (3) assessment of the quality of life in the rural South resulting from changing agricultural production patterns. Following an introduction to the conference theme by the conference planning chairman, the first four sections of the proceedings consist of an address by the U.S. Secreatry of Agricluture entitled "The Rural South--Looking to the Twenty-First Century," and three memorial lectures by the Mayor of Birmingham and two Agriculture Department officials entitled respectively: "Emerging Issues in the Rural South for the Twenty-First Century"; "Serving the Rural South in the Twenty-First Century: The Challenges and Opportunities"; and "Agriculture and Education--Partners in Rural Progress." The next seven sections contain paper on the following topics: "Production of Food and Fiber in Response to Need; Food and Fiber: Institution and Agency Approaches; Changing Employment Patterns and the Quality of Life in Rural and Urban Sectors; Changing Employment in the Rural South; Assessment of the Quality of Life in the Rural South Resulting from Changing Patterns in Agriculture Production; Summaries and Recommendations, and Success Stories. The final section provides an announcement and information on the 45th Professional Agricultural Workers Conference to be held in 1987. (TES)

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Ushering in the Twenty First Century

Emphasis on the Rural South

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Editor

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The editor and director is an economist. He has served as Adjunct Professor, Cornell University and Louisiana State University, and Visiting Fulbright Professor, University Pertanian, Malaysia. In 1980, he assumed the directorship of the Human Resources Development Center, Tuskegee University. Any part of these proceedings can be reproduced or utilized in any form with written permission from the editor. Inquiries should be directed to Dr. Thomas T. Williams, Director, Human Resources Development Center, Tuskegee University, P.O. Box 681, Tuskegee, Alabama 36088.

Foreword

Tuskegee University is a recognized center of higher education with a demonstrated record of outreach. The Human Resources Development Center (HRDC) functions "to serve the people where they are" and mirrors the outreach activities of the University. HRDC is a campus-based unit responsible for disseminating timely and relevant technology to non-campus based clientele. The HRDC staff cooperates with and gives programmatic support to all academic divisions and, where possible, assists in developing programs of interest in both academic and non-academic units. The mission of Tuskegee University is a commitment to excellence, and the outreach function is to utilize the expertise at the University to improve the quality of life for rural and urban people where they reside. The mission and the outreach function are interwoven and are as old as the University.

As the institution's outreach arm, the Human Resources Development Center is involved in community development programs designed to improve the quality of life for all people served. In carrying out its function, the HRDC staff works with academicians, researchers, administrators and cooperative agencies to foster community development. In addition, the Center staff serves on local, state, national and international committees to formulate public policy on community development; provides one-on-one assistance through seminars, workshops and conferences in support of activities to assure viable small towns and rural communities.

In carrying out outreach responsibilities, the HRDC staff helps grass roots community leaders to plan, develop and implement programs that are in harmony with identified community needs. During 1986, HRDC was the coordinating entity for such programs as (1) The Annual Professional Agricultural Workers Conference (PAWC); (2) The George Washington Carver Public Service Hall of Fame; (3) the L. A. Potts Success Story Activity; (4) Annual Home Classic Show; (5) Mini-Housing Workshop Series on community development issues; and (6) Seminars and Conferences on domestic and international development issues. The integration of research, extension and instruction in the HRDC outreach strategy strengthens the impact of the total University on community development.

The primary purpose of the Professional Agricultural Workers Conference is to provide a forum where *providers of technical assistance and the users can meet and share ideas on demonstrated ways to improve the quality of life for the clientele served by the 1890 land-grant institutions and Tuskegee University.* For over 44 years, participants at the Conference have represented universities, government, business, foundations and

other farm related groups having major responsibilities in the area of rural community development. The 44th PAWC was held on the Tuskegee University campus, December 7-9, 1986. The Conference had as its theme "Ushering in the 21st Century—Emphasis on the Rural South" and was attended by individuals with interest and involvement in rural community development activities. The Conference proceedings, which will include over 30 formal papers presented by practitioners and scholars from many of the cooperating agencies listed below. Evaluation of the PAWC revealed that a significant number of participants benefited professionally from the Conference dialogue and personal discussions.

Most of the activities reported in these proceedings were carried out with the cooperation of the following organizations, groups and/or agencies:

National Association of State Universities and Land-Grant Colleges
U.S. Department of Housing and Urban Development
United States Department of Agriculture
Coastal Plain Experiment Station
Southern Regional Information Exchange Group on Rural Sociology
Southern Rural Development Center
Agency for International Development
Southeast Women's Employment Coalition
Alabama Farm Bureau Federation
R. L. Zeigler Packing Company
U.S. Department of Commerce/Economic Development Administration
Farm Foundation
Resources for the Future
National Conference of Black Mayors, Inc.
Ford Foundation
Tennessee Valley Authority
Bureau of Tourism and Travel, State of Alabama
Department of Agriculture and Industries, State of Alabama
Alabama Cattlemen's Association
Alabama Poultry and Egg Association
National Organization of Black County Officials
The Mott Foundation
Tuskegee University
International Science and Technology Institute, Inc.

We strongly feel that information presented in the proceedings will assist you in your rural related community development efforts, and we strongly recommend it for reading, study and use in your planning and community development activities. To assure your copy of the proceedings, we suggest that you place your order now.

Each participant who registered for the Conference will receive a free copy of the proceedings. Additional copies can be purchased at $40 including shipping. When ordering, please refer to the publication by title and ISBN #0-942875-00-75, "USHERING IN THE TWENTY-FIRST CENTURY—EMPHASIS ON THE RURAL SOUTH," and make check payable to *Tuskegee University/HRDC*.

Plans are under way to expand and strengthen the operational linkages between the suppliers and users of technical expertise available at the 1890 land-grant institutions and Tuskegee University in the area of community development. The 1987 PAWC Theme, "Keys to Rural Community Development in the Southeast" will focus on four

subtopics: (1) Leadership at the State and Local Levels; (2) Citizens' Participation in Program Planning; (3) Pursuit of Quality Education; and (4) Business Approach to the Survival of Small Family Farms. We look forward to continued support from each of you as we cooperatively work to realize our common function — effectively serving rural people where they presently reside.

T. T. W.

"... It has always been the one great ideal ... to be of the greates good to the greates number of my people possible..."

— George Washington Carver, 1896

Acknowledgments

Many associates provided assistance to the editor and deserve a special expression of thanks. Dr. Howard L. Miller, Kanand Brooks, Jr., and Fred Harrison, Jr. who provided counsel during the editing process. Mrs. Wiletta Simmons, Ms. Jacquelyn Allen and Ms. Patricia Jackson, (student worker) in addition to helping with typing the proceedings, provided useful insights into the organization of the over 30 papers included in the publication. We thank officials with the U.S. Department of Housing and Urban Development for their assistance designed to expand, strengthen and integrate the University outreach activities.

Special mention is accorded for the timely and helpful support of the 1986 Conference cooperating agencies, the University family and Tuskegee City and County governments. The "Town, Gown and Country" approach to working together for planning and implementation was highly evident during the days participants were in Tuskegee. Individuals, groups and cooperating agencies involved in the program planning and implementation are commended for their unselfish efforts. To the over 300 participants, it was indeed a pleasure serving as Program Chairperson and your support and encouragement helped to keep planning activities on course and program implementation on schedule. We especially thank the following groups associated with 1890 and 1862 land-grant universities: (1) Research Directors; (2) Extension Administrators; (3) Deans and Directors of Resident Instruction; (4) Home Economics and (5) Directors of International Agricultural Programs. Inputs from these groups was evident during the planning and presentation of conference papers included in these proceedings.

Any opinions, findings and recommendations expressed or implies are those of the authors and do not necessarily reflect the views of the editor or the cooperating institutions.

Introduction

The 1986 Conference Theme— Ushering In The Twenty First Century With Emphasis On The Rural South

Thomas T. Williams
Tuskegee University

Since the days of World War II, agricultural workers from the South and across the nation have assembled at Tuskegee University to meet with state and national leaders and discuss issues which could result in improvement for rural people and rural America. The role of the 1890 land-grant colleges and Tuskegee University have always held a central focus at the annual Professional Agricultural Workers Conferences.

With a new century little more than a decade away, the theme for 1986's conference was selected to project the entry into Century XXI. The technology of a space age has left massive displacement on the farms of America. The mechanization which so efficiently has replaced human labor in the production of food and fiber has also produced mountains of farm supluses. This abundance now exceeds demands of the domestic marketplace and finds only limited outlets in the export trade. Faltering prices, sliding incomes and mounting debts have brought crises to many farm families and to rural communities.

The exodus from the nation's farms continues. Less than five percent of the population now live on farms and even fewer produce Agriculture's major products. Only the large, efficient farm units appear able to survive. Yet the rural South is characterized by thousands of small farms that demand outside income to provide even the most meager family incomes. The coming of industry appeared to stem the region's economic downturn and offer employment in many southern counties. Most of these opportunities are gravitating to the South's urban areas.

Taking a look toward the next century, speakers at the PAWC found much for optimism. The Atlanta Constitution in a series of articles on the blackbelt described

with chilling accuracy that "the blackbelt.... is a vast land....of rich soil but poor people." Birmingham Mayor Richard Arrington, Jr. pointed out that "today in most southern states there are two Souths— the urban South, much of it prospering and creating new jobs and opportunities; and the rural South, much of it on the decline, losing its jobs, its confidence and its people!"

Examining the Alternatives for the years ahead, the conference considered three major issues:

Production of food and fiber in response to need.

Changing employment patterns in the rural and urban South.

Assessment of the quality of life in the rural South resulting from changing patterns of agricultural production.

Looking to the future, Secretary of Agriculture Richard E. Lyng called for what he termed, "rural revitalization." He commented that, "Rural communities are at a critical juncture. Agriculture is no longer the major employer it once was.... our concerns for the economic future of our nation's rural areas must take in the community as a whole."

In his George Washington Carver Hall of Fame Lecture, John E. Lee Jr. of USDA's Economic Research Service cautioned that, "Rural workers in the South will face a different set of labor market opportunities in the future." He added that "the rural South will probably not capture a major part of the most sophisticated high tech jobs but that information-based jobs would comprise the greatest share of new job opportunities."

The C.A. Williams Memorial Lecture was given by Orville G. Bentley, Assistant Secretary for Science and Education, USDA. he focused his lecture on the assumption that "the U.S. agricultural system recognizes the production of food and fiber as essential to the well-being of people and the future of our place in the world community." Today our agriculture is the world's largest industry, but we face a national and worldwide difficult situation. We continue to experience severe declines in land values, large surpluses of farm commodities and depressed prices. Yet hunger and malnutrition threaten millions of people in Africa. Looking into the future, Assistant Secretary Bentley alluded to two beacons of hope: (1) The engine that drives the high-tech industry of agriculture is science and technology. Our capacity to pursue research and understand science and its application is a valuable national resource; and (2) small-scale farmers are accepting practices that reduce costs and minimize environmental impact. They are lowering production costs and raising profitability by taking advantage of new systems and products of technology.

"The South is in a unique position for food production... blessed with ample water supplies, adequate rainfall with soils that respond rapidly to fertilizers," Gale A. Buchanan of Georgia's Coastal Plain Experiment Stateion commented. "Couple the mild climate, and good transportation systems, we do indeed have some comparative advantages in agriculture."

While the South is rich in resources, ways must be found to better utilize them and gain full employment for the rural work force. The conference was told repeatedly that education would be the key for both economic and social development as the nation approaches the twenty-first century. Low taxes and consequent low support of schools and public services are no virtues for the South, one speaker concluded. The work force of the future will demand that workers are literate and have skills that can be utilized in an information society.

Finally, a unique American institution— the land-grant college-university system will continue to play a major role in future development. For nearly 125 years these "people's colleges" have graduated young men and women who have been imbued with a guiding philosophy of helping people. When a scientific agriculture required answers for new

problems, the Agricultural Experiment Stations came into being. To better disseminate the research findings and assure application of new knowledge, the Cooperative Extension Service was created.

Much too late in our national history, the 1890 colleges came into being and have been struggling for nearly 100 years to become equal partners with the other state institutions. The same dedicated spirit that eventually brought the 1890 schools to the South had similar beginnings on the Tuskegee campus. The 1986 Professional Agricultural Workers Conference was part of a continuing effort to carry on the premier work of the true giants in our history, Booker T. Washington and George Washington Carver. Their greatest tribute is that we have committed ourselves to carry on their visions at these annual conferences.

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Plenary Session

The Rural South - Looking To The Twenty-First Century

Hon. Richard E. Lyng
Secretary of Agriculture, U.S.D.A.

It's an honor for me to deliver the George Washington Carver Memorial Lecture here at Tuskegee University. I am proud to take a place in the line of distinguished lecturers.

December, the end of the year, is a reflective time. It is an appropriate time to look back at our history—and to look ahead to what the future holds. It reminds me of a statement I once read: "We salute the past—embrace the present—and anticipate the future."

In order to understand the present—and prepare for the future—we must look at some of the history which has preceded us. At Tuskegee University, that history is a proud one. It dates back to the school's founding in 1881 as the Tuskegee State Normal School for the training of black teachers. The first instructor was Booker T. Washington.

He played a crucial role in the growth and development of Tuskegee from the day it opened until his death in 1915. His monument reads, "He lifted the veil of ignorance from his people and pointed the way to progress through education and industry." His influence extended far beyond the bounds of this campus. He dined with President Theodore Roosevelt and invited Grover Cleveland to his annual farmer's conference. The influence of Tuskegee was felt throughout the world.

But this great man's impact must be measured in another crucial way. In 100 years of service, Tuskegee University has placed its stamp on more than 57,000 students. The professionals educated at Tuskegee have had a profound effect on agriculture and the South. Tuskegee graduates have been, and are today, both the beneficiaries and the advancers of learning.

Dr. George Washington Carver came to Tuskegee in the 1890's to begin his career of teaching and research. His life's work proved invaluable to farmers and to the South, the nation, and the world. His discoveries not only helped small farmers to survive economically, but also encouraged them to improve the quality of the soil. I am not the only Secretary of Agriculture to salute the genius of Dr. Carver. Secretary James

Wilson came to Tuskegee in 1897 to dedicate the Armstrong-Slater Memorial Agriculture Building. It was built for Dr. Carver's Department of Agriculture and Experiment Station.

Secretary Henry A. Wallace often recounted Dr. Carver's influence on his own development. "His faith in me aroused my natural interest and kindled an ambition to excel in this field. My later interest and work in corn breeding was largely due to him." Dr. Booker T. Washington and Dr. George Washington Carver stand high in the advancement of agriculture, but they do not stand alone. Other black achievers have made outstanding contributions: Norbert Rillieux found a process to refine sugar which we still use today; Junius Graves earned the title of sweet potato king; Percy Julian discovered the process for preparing pure soya protein; and Thomas M. Campbell was the first Black extension agent.

Agriculture Today — We remember the past—and honor it. Turning to the present, we are in the midst of an era of broad-based change. In his book *Megatrends*, John Naisbitt wrote, "Things aren't going to get better. They're going to get *different*." Agriculture is "getting different" about as fast as anything I can think of. There are constant changes.

Imagine a farmer from biblical times who fell asleep and woke up in rural America of 1886. He would recognize most of the farming practices. But if this time traveler woke up in the rural America of *today*, he would probably go into shock. The agriculture of 1986 would seem incredible. Personally, I am astounded by the changes that *I* have seen in the short span of the past 50 years. Much of what is commonplace on America's farms and ranches today was undreamed of when I was a boy.

Not only has production agriculture changed, but so has the marketing of the commodities we produce. One of the major challenges we face is the international trade. No matter how much some people might seek to isolate themselves and their commercial dealings, we are part of a global agricultural industry. As President Dwight D. Eisenhower said 30 years ago, "What we call foreign affairs is no longer foreign affairs. It's [illegible] fair. Whatever happens in Indonesia is important to Indiana. Whatever happens in [illegible] orner of the world has some effect on the farmer in Dickinson County, Kansas..."

That view still holds true. Today, the production from one of every three acres of harvested cropland in the U.S. is shipped to customers overseas. If we are to realize our full potential as a world agricultural leader, the United States can and must continue to compete in world markets. At home, we must work to assure that our farms and ranches produce efficiently and at low unit costs and, that they produce a quality product. Abroad, we must work to eliminate the existing trade barriers and subsidies that are costing billions of dollars and making it harder and harder for developing nations to achieve economic stability.

We must put agricultural issues on a "fast track" in the new round of multilateral trade negotiations getting underway in Geneva. The alternative could well be a global trade war which would be devastating to American agriculture and to world commerce.

Looking to the Future - I quoted John Naisbitt on how different the years to come will be. Another well-known philosopher, Pogo, said much the same thing—"The future just isn't what it used to be." And it isn't. The same change which is so evident in the present is having an even greater impact on the future.

Biotechnology - A New Horizon - Any discussion of the future of agriculture has to include biotechnology. Linked with the computer, biotechnology has advanced research at a rapid pace. Because of the discovery of the chemical structure of the genetic code of life some 30 years ago and the development of gene-splicing techniques in the past 10 years, change is coming about at an incredible speed. Biotechnology is a powerful tool which can help us reach the enhanced product quality and the lower unit production

costs that are necessary in order to maintain U.S. agriculture's competitiveness in international trade.

But a tool only works if you use it. We must integrate the new knowledge with traditional agriculture. In order to derive biotechnology's full benefits, we must be able to convert the insights of the laboratory into commercially profitable ventures and then to widespread practical use. Dr. Washington followed that concept early on when he sent the Jesup Wagon, and later the Knapp Truck, to carry useful and practical information to Southern farmers.

Help For Small Farmers - Another Tuskegee idea which has stood the test of time is Dr. Carver's emphasis on diversification. Whether we call it that or alternative farming or small farms, it's time to take another look at small-scale agriculture. Alternative crops offer exciting and profitable possibilities for many small farmers. The 1986 Farm Bill directed the Secretary of Agriculture to be mindful of small and mid-size farmers. We are making every effort to do that.

USDA is establishing an Office for Small-Scale Agriculture. In addition, our Alternative Farming Systems Information Center at the National Agricultural Library focuses on non-traditional agricultural practices and systems and emphasizes low-input, resource-conserving farming and gardening. Nationwide, we are involved in more than 6400 USDA and State Experiment Station research projects that are of interest to organic or alternative system farmers. The 1890 Land Grant Institutions and Tuskegee have a long history of working with limited resource farmers. You must now make known, and share with others, the knowledge and management know-how you have acquired over many years. You can be proud of Tuskegee's role in the evaluation of small-scale agriculture and the work done here by Dr. Booker T. Whatley. His vision has provided opportunities and options for farmers across the nation.

Currently, the George Washington Carver Research Foundation is working on solar pasteurization — an alternative process using solar energy for weed control. By cutting back on the need for expensive herbicides, it reduces production costs and protects our soil and water resources.

Tuskegee is also continuing Dr. Carver's legacy through work on the sweet potato: its reaction to increased carbon dioxide in the air (the "greenhouse" effect) and soilless cultures to grow it for long-term missions in outer space. In other areas, aquaculture research is being conducted at Kentucky State University and the University of Arkansas at Pine Bluff. Fort Valley State College, Langston University, and Prairie View A & M University have outstanding goat research programs in partnership with USDA.

Strong research programs at the 1890 institutions have provided base data for the development of dynamic Extension programs for hard-to-reach and limited resource farmers. Such programs contribute to cost-effective alternative farming systems — a necessary part of the future and the enhancement of farm profitability. Since Reconstruction, the 1890 Land Grant institutions and Tuskegee University have served as a vital national resource. They have been a valuable source of many of America's college-trained Black Population. In addition, they have built meaningful and constructive links between the campus, the community, Federal and State governments, and the private sector.

USDA is proud of its strong relationship with the 1890 institutions and Tuskegee University. They have a special mission within the broader work we are doing together. That mission follows the three-part land-grant philosophy of teaching, research, and extension.

In order to enchance the *teaching* aspect of that philosophy, USDA's Office of Minority Research and Teaching Programs, under Dr. Ezra Naughton, focuses on the higher education concerns of minority institutions and individuals.

In *research*, USDA's Animal and Plant Health Inspection Service (APHIS) is working with Tuskegee to establish the International Center for Tropical Animal Health to advance foreign animal disease surveillance in the Caribbean, Central America, and West Africa and find ways to meet special animal health needs.

To further the *extension* of knowledge, APHIS has worked with Tuskegee to assign three cooperative education students and hire twenty-one summer students in fields ranging from veterinary medicine to business and public affairs.

Rural Revitialization - All of us depend on rural America for food, fiber, and forest products as well as stewardship of our land and water resources. The preservation of rural America is not only in the best interest of the 63 million people who live there, but also in the best interest of the entire nation.

Rural communities are at a critical juncture. There have been important changes in the sources of income and employment. Agriculture is no longer the major employer it once was. Today, only three jobs out of every ten in rural America are in farming. This means that our concerns for the economic future of our nation's rural areas must take in the community as a whole.

Local leadership is essential. It draws upon the shared identity and sense of community that is rural America's strength. At the same time, we need national programs because many rural problems are rooted in national issues. The Cooperative Extension Service has identified "Revitalizing Rural America" as a priority for fiscal years 1988-1991. This program will educate and assist local leaders as they address the problems in their communities.

The revitalization of rural America is a priority within U.S.D.A. Rural communities are foundering as tax bases erode, factories and mines close, and more citizens require social services. We in the Department accept the challenge of helping rural leaders overcome those difficulties.

International Efforts - Our concern for rural areas also extends to our neighbors throughout the world. Dr. Washington recognized the international dimensions of agriculture in the early 1900's when he sent a team of Tuskegee agricultural experts to Togo. Tuskegee's current president, Dr. Payton continues that tradition of outreach through his service on the Board for International Food and Agricultural Development (BIFAD).

Agriculture in most developing nations is characterized by limited resource farmers working small plots of land. The work done by researchers, extension specialists, educators, and economists at historically black colleges and universities on small farms has helped find new techniques that are not only useful in the U.S., but can be transferred to the developing world. U.S.D.A.'s Office of International Cooperation and Development is working to involve the 1890 schools in encouraging private industry to invest in the developing world. Prairie View A & M exhibited their dairy goat development and improvement program at an OICD Agricultural Marketing Workshop.

Just as Dr. Carver's peanut milk helped raise healthy infants in the Belgian Congo, so research being done today at the Carver Research Foundation is valuable to the struggling nations of Africa, Asia, and Latin America. Studies in nutrition, the diseases of goats, poultry, and swine, and the development and evaluation of vegetable and small fruit crops contribute substantially to the future economic and physical well-being of our international brothers and sisters.

Careers - The future will soon be in hands other than yours and mine. One of the most crucial variables in the equation of the future is our young people — our scientific and professional human capital. A future without emphasis on the youth of our nation is unnatural and, in agriculture especially, unrealistic.

America's food and fiber system is threatened by impending shortages of qualified scientists, managers, and technical professionals. A 1985 USDA national assessment

of employment opportunities of college graduates in the food and agricultural sciences indicated that during the next five years, U.S. colleges and universities will produce insufficient numbers of graduates with food and agricultural expertise to fill important scientific and professional positions. We project more than 48,000 employment openings annually, yet we anticipate fewer than 44,000 qualified graduates each year. This is a tremendous challenge for lthe 1890 institutions — to fill this gap with eager and educated minds.

Agriculture is *more* than production, it is a wide and varied field. Through 1990, basic plant and animal research, food and fiber processing, and agribusiness management and marketing are expected to provide the most significant employment opportunities for college graduates with expertise in agriculture, natural resources, and veterinary medicine. These are areas in which young people will find not only jobs, but challenges and rewards as well.

In conclusion, I want to quote Dr. George Washington Carver, the great scientist we honor in today's memorial lecture. he wrote that "it has always been the one great ideal of my life to be of the greatest good to the greatest number of people." This outstanding man devoted his life and his career to the proposition that we exist to contribute to humanity and the world in which we live.

One individual *can* make a difference, but it is not individuals working alone who have given society new goods or services to improve our lives. Much of this progress is made possible by the network of educational and agricultural institutions which spans this country like the nerves of a giant brain. We are all part of a great productive food and fiber system. It is because we are working *with* each other that we can make such progress *for* each other.

In 1963, the Rev. Dr. Martin Luther King, Jr. made a speech in Washington, from which the phrase "I have a dream" became famous. Today, you and I share a common dream — a future in which American agriculture is strong and prosperous. We must work together to make that dream come true. A poet once wrote, "In dreams begins responsibility." To meet that responsibility, to realize that dream, our minds and hearts must encompass the past, the present, and the future.

We salute the past — by remembering our origins, our successes and our failures, and how far we have come.

We embrace the present — by maintaining our strength, our confidence, and our cooperative spirit in the excitement and energy of change.

And finally, *we anticipate the future* — by focusing our efforts, preparing our young people, and working together to establish a new excellence for the American agricultural system.

The L. A. Potts Memorial Lecture

Emerging Issues in the Rural South for the Twenty-First Century

Hon. Richard Arrington, Jr., Mayor
Birmingham, Alabama

Each of us has within our possession the potential for many success stories. Our daily experiences, when properly focused and executed, will significantly improve the quality of life for people residing in the rural and urban sectors. This optimistic view of life and people mirror the character of the late Dean Lawrence A. Potts. He was a master of getting people to work together toward a common goal. Development and implementation of programs to move individuals into the mainstream of life (economically, educationally, socially and politically) was his primary concern. The unique leadership qualities of this individual can best be observed by the large number and varied types of success stories he was associated with during his twenty years as Dean of Agriculture at Tuskegee University and five years as Assistant Secretary of Agriculture in the Nation's Capital.

As a native son of the rural south, I come to this great insititution today with a bit of awe. The history of Tuskegee University is well-known and needs no repeating here. I would remind you that Tuskegee has stood for a special kind of education, the education of the whole person! Tuskegee has been in the forefront of institutions seeking to provide leadership for the rural south with all of its complex problems. While reaching out to the neediest among us, it has maintained quality leadership in teaching, research and public service.

Yet, despite all of its illustrious history and many successes, new challenges await it. I'm reminded of the words of the philanthropist Henrietta Szold, who wrote "there is no ending which is not a new beginning." So it is today for Tuskegee. Every triumph, every success story — as gratifying as they are — lead to yet bigger challenges. The rural south in whose midst Tuskegee University has labored for all of its existence, faces even more complex problems today and in coming decades. Though we speak of the rural south today, I'm reminded of what a uniquely different place is the south as a whole — with each generation of southerners proclaiming that "there is a new south".

Ever since the Civil War era, the people of the South have shown an acute sensitivity about their deficiencies. Southerners have felt different. Some have focused on the Civil War defeat. Others have worried about economic failure and political impotence. Still others have lived with guilt because we fought a war over the institution of slavery, wrestled with racial prejudices more overtly than the rest of the nation, and were often judged by others to be out of step with America.

However, for the last one hundred years, there has also been a growing impulse within the South to improve southern economic development, cultural life, educational opportunities, and the attitudes of people in general. Whether black or white, rich or poor, we southerners have lived with a special brand of self-consciousness and self-examination which has often taken the form of seeking change.

One of the first social commentators to call for a new South was the Atlanta journalist, Henry W. Grady. In the 1880's, Grady urged the need for his region to recover from the Civil War and develop a new industrial thrust. And, just as my grandfather's and father's generation grappled with the same task of molding the new South of their times, I expect that my grandchildren and their children will discuss and debate with equal certainty the manifestations of their "New South".

The South's quest for renewal and development has taken different forms in its constant metamorphosis. Following Grady's call for a new South, there was indeed some change. In the late nineteenth century, new cotton mills sprouted throughout the South, providing new sources of family wages and bringing a degree of diversity to a hard-pressed agricultural economy. Life in fact was changing, and the rallying cry, "the south shall rise again," seemed to be coming true. But that period of change fell far short of creating the transformation southern visionaries had in mind and what history tells us was so badly needed. The failing may well be explained by the words of David Mathews. In addressing the topic of the New South, Dr. Mathews wrote:

> *But somehow in that New South, we became so caught up in our own propaganda that we forgot to look at what we really had. And what we really had was just an extension of the poverty of the plantation shifted into an industrialized framework. A "family wage" in the new industrialized South meant that every member of the family who wanted to eat, even women and children, had to work long and hard for the money to pay the commissary for food. And while the image of the south prospered, the people who made that image possible, the cheap labor force, were a straggly, tubercular lot, and not a credit to anyone...We should learn from earlier new Souths that progress without people was just so much technology.*

If we examine the history of all of the previous new Souths, seeking the basis for the failures which might have occurred, one major lesson is evident. More often than not, the efforts at social change were not targeted at the uplift and transformation of the individual, the people. Our true wealth is not just our vast lands and rich natural resources but our human resources. People are the foundation for lasting, constructive change. The earlier new souths failed because the concept of progress simply was not extended to a broad base of the southern population. Economic and social change cannot thrive in a society where only one-third of the people are to be part of the progress. The essential and bitter lesson which the South has had to learn is that, in a democratic society, when large segments of your population are programmed for failure, progress will not be achieved. Therefore, earlier new Souths turned out to be ineffective, empty, and perhaps even mythological.

As we focus on issues which will confront the rural South in the next century, we would do well to remember that any solution must deal with the individual. Success will require that investment in people be our first priority. Today in most Southern states there are two Souths — the urban south, much of it prospering and creating

new jobs and opportunities; and the rural south, much of it on the decline — losing its jobs, its confidence and its people!

The much ballyhood "sunbelt" growth, characterized by expanding populations and economic development in places like Atlanta, Austin and Charlotte, has been good for the South, but may, at the same time, have served to mask the growing difficulties of rural areas. After two decades of reasonable solid growth, many rural communities are now finding themselves in serious trouble, due to a simultaneous decline in both manufacturing and agriculture. We are beginning to see the uniqueness of problems of the rural South, and we are beginning to understand that farm foreclosures and textile plant closings were not due just to the 1980 recession. When the economic recovery in the South began, it soon became clear that no such recovery was occurring in the rural sector.

It is now clear that the economy of the rural South faces some severe negative trends with long-term implications. Among them are these:

During the late 1950's to late 1970's there were more than 1 million new manufacturing jobs created in the rural South; an 80% growth in manufacturing jobs for the rural South. But despite this growth, the per capita income of the rural South was less than three fourths the national average in 1980. Among rural southern blacks, the per capita income was less than 30% of the national average; while the unemployment rate as a whole for the region was 35% above the national rate. In the past, when agriculture was declining, the rural South was able to counter the decline with the influx of manufacturing jobs. Thus the two economic staples of the region were agriculture and manufacturing. Now both are on a decline, producing a crippled economy with large numbers of displaced and untrained workers. Even where manufacturing jobs are moving into rural areas, we find that their products are more capital intensive and require fewer workers.

The rural South is without a highly-skilled labor force when one is badly needed; with poor and declining infrastructure when access to good markets require good infrastructure. The South also has lower educational standards to face an increasingly competitive world.

International competition is working against us. The fact that we compete in a truly world market has been rudely brought home to us at a time when we are losing our world markets, especially for farm products and manufacturing goods. Where cheap labor is in demand, we cannot compete with the developing nations.

Despite all the glowing reports out of Washington about our strong economy, federal policy is failing this nation. It is failing in part because of the inability of the Reagan administration to distinguish between productive incentive programs and "wasteful programs", — a must for a productive capitalistic free-market nation. It is failing both urban and rural America.

Despite this administration's success in getting its proposed long-term farm bills through Congress — bills which were supposedly market-oriented — they show no signs of dealing effectively with our farm problems. One cannot help but wonder if the so-called market-oriented farm legislation of the last five to six years is not part and parcel of the larger, failed, "trickle-down" economic theory. While some may argue that the reduced commodity price support levels are essential to stop overproduction and to permit our agriculture to respond to the market place, most of us can only see negative results — farm foreclosures, chaos, and economic instability. For those of us who still dare to believe that one role of government is to enact policies which foster a climate of economic stability — one under which rural America can also prosper — these policies are disappointing.

This administration, unable to distinguish between good policy and bad policy, has abandoned the traditional role of partner to rural America and has become an adversary! Indeed, in its reform movement, it is throwing the baby out with the bath water! The Reagan budget cuts have cost the South $20 billion since 1980, resulting in the loss of critical jobs, needed technical support, start-up capital and needed infrastructure. By 1988 under Gramm-Rudman, the loss to the South will increase by 20%.

There is poor and declining federal support for rural development. The traditional federal industrial recruitment assistance programs are being scrapped. Since 1980, the rural South has lost 120,000 textile and apparel jobs. In North Carolina alone, 13,000 farmers went out of business between 1980-1985, and land values and agricultural assets in that state declined $2 billion from 1983-1985. To meet the challenges facing rural America, we will need new policies which: (1) help producers to control their own marketing through their own cooperatives; (2) restructure farm debt and stop farm foreclosures and; (3) have programs which help to maintain the viability of rural communities, emphasizing education and health care.

Perhaps we should realize that industrial expansion, the past savior of the rural South's economy, has not been all its put up to be. As in the early days of the transition from agricultural to the industrial economy, the South has often found that the industries did well but the workers didn't. Industrial plants too often have no loyalty and have too often failed to make local investment in local assets such as infrastructure and transportation.

Alabama is a prime example of this type of neglect. Even in urban areas like Birmingham with its great natural resources, the area suffered from neglect by the industrial barons who were often absentee landlords, using the products of the South to artificially prop up its northern industries.

Alabama has not helped itself with its low property taxes. A glimpse at a state map showing land ownership will quickly show that huge tracts of potentially productive land are held by a small number of corporations and lay idle. Having to pay little or no taxes, corporations have no incentive to make their land productive. Were taxes fair, they would be forced to use the land to offset their tax liability.

We continue to decry the problems but let's speak to new strategies for new challenges for the rural South. In planning for the future, we must understand change. New technologies are producing new industries while traditional industries — manufacturing, mining and agriculture — are shrinking. We must note that:

— The base of our future economy is still our natural and human resources.

— We must find ways to stimulate local leadership and initiative, being more creative in cultivating local entrepreneurship.

— We must use our market research, community education, technical assistance, and start-up capital (revolving loan funds) to identify untapped regional markets and to expand and improve cooperative projects. Our universities and colleges in rural areas can be a great asset in meeting this facet of the challenge.

— We must re-examine our tax structure, making wiser choices about what may or may not be economic development incentives.

— Since the rural South has a large number of blacks and women who are poorly equipped with job skills, we must give some special attention to ways to encourage minority and women skills training and business development.

When we focus on predominantly black, depressed, rural areas, we really begin to see the magnitude of the challenge for rural Alabama for the 21st century and the need for special attention to needs of blacks.

The *Atlanta Constitution* recently published a series on "The Blackbelt — An Abandoned South". With chilling accuracy, it portrayed the bleak situation we confront. It noted that the blackbelt is a vast land, stretching through seven states — a land

of rich soil but poor people. This contrast points up again the fact that good natural resources but poor people resources will not enable us to realize our potential.

The Blackbelt of the South still brings up the rear of rural America. It is the clearest example of rural America — abandoned by agriculture and avoided by industry. It is one of America's clearest examples of how negative racial attitudes especially towards blacks, continue to shackle a people and a region. Just as we've seen redlining by financial institutions in the predominately black inner city urban areas, we see the most despicable industrial redlining in the heavily black-populated blackbelt.

At the same time, the federal effort at rural economic development is diminishing. Every year since 1981, the White House has proposed abolishing the economic development administration which helps local governments create jobs for poor people. In the last six years, the EDA budget has been reduced by two-thirds. What makes this situation even sadder is that elected officials from the states needing this type of assistance most stand silently by while policies are effected which emaciate the future of a significant segment of the region and people they are supposed to represent.

Educational opportunity for this area is just as bleak. As a region marked by segregated academies and poorly-financed public school systems, the Blackbelt cannot be competitive. But since so much of our future success will turn on what we do for the individual, we must give special attention to our educational needs — from pre-school education to remedial education — for dropouts and displaced workers. For the rural South, perhaps more so than any other region of our nation, education must be seen as an investment in our future.

Last month the report of the Southern Growth Policies Board Commission on the Future of the South listed 10 regional objectives for 12 Southern states. These were all objectives to be achieved by 1992. Of the 10 objectives, seven were tied directly to education. They were:

— *Provide a nationally competitive education for all Southern students.*

— *Mobilize resources to eliminate adult functional illiteracy.*

— *Prepare a flexible globally competitive work force.*

— *Increase the economic development role of higher education.*

— *Increase the South's capacity to generate and use technology.*

— *Develop pragmatic leaders with global vision.*

I cannot help but note here that history has shown that states which have been abundantly blessed with natural resources, like Alabama, but have been lacking in leaders with vision, will suffer in its economic and social development. When we realize that in Alabama, we have ten percent of our nation's natural resources, but for years have brought up the rear on indicators which measure the quality of life, like per pupil expenditures and health care standards, we must ask ourselves, why? And as harsh as the reality may be, we must face the fact that a part of the answer lies in the fact that we have too often substituted demagoguery for leadership.

— *Improve the structure and performance of state and local governments.*

The issues in the rural South for the next century are clear. We face a great challenge. But we can be equal to the task if we have the vision to make the right choice in our priorities.

The George Washington Carver Hall of Fame Lecture

Serving the Rural South in the Twenty First Century: The Challenges and Opportunities

John E. Lee Jr.
Economic Research Service, U.S.D.A.

The George Washington Carver Public Service Hall of Fame award is given in recognition of individuals whose work mirror the Philosophy of Dr. Carver as reflected in the quote: ".... It has always been the one great ideal...To be of the greatest good to the greatest number of people."—1896.

Dr. Sidney H. Evans, the honoree, believes that excellency in teaching, research and outreach are the prerequisites of a dynamic land-grant university. His leadership qualities and people focused commitment attest to his nomination for induction into the George Washington Carver Public Service Hall of Fame. He has spent over 35 years of professional service with programs and activities designed to improve the quality of life for people in general and rural Americans in particular. Dr. Evans provides timely leadership to North Carolina and A & T State University on ways to help people maximize their contributions to the Gross National Product (GNP). His sagacity of fiscal and program management harmonizes with the outreach motto of "helping people determine their own destinies." He takes every opportunity to involve students in community-related activities designed to help them apply theory to lifelike situations. In addition to teaching, research and outreach, the honoree has served in various administrative capacities at the University, including: (1) Chairperson, Department of Economics, (2) Head, Department of Agricultural Economics, (3) Interim Chairperson, School of Business and Economics, (4) Director, Transportation Institute, and (5) Chief Investigator for the 1890 Land-Grant University Poverty Study. Four years ago (1982) he was appointed Director of Agricultural Research at A&T State University. In his dual capacity of Chairperson and Research Director, Dr. Evans is in a unique position to give programmatic and administrative leadership to the direction and substance of outreach activities at the University. The honoree brings to the research and outreach responsibilities tested leadership qualities and commitment to the three basic land-grant functions.

Introduction

It is an honor and a pleasure—and a bit humbling—to address this distinguished audience, in this unique and historic institution, and in honor and memory of so distinguished a scientist as was George Washington Carver.

I commend you on the theme of this conference, "Ushering in the Twenty-First Century—Emphasis on the Rural South". My remarks will be consistent with that theme as well as with the tradition of historically black colleges and universities in responding to the needs of the times and the constituents. And, that constituency has traditionally been people in need.

The rural South is indeed in transition. This is not a new or sudden development. The cumulative effects of changes in both agriculture and rural America, compounded by economic problems of the 1980's are perhaps more profound than we have fully comprehended. The developments have implications for the roles of education and offer special challenges and opportunities for 1890 institutions.

My thesis is as follows: Farming will offer limited opportunities for rural Southerners in the future. Most economic activity will be in other economic sectors. If the focus is too much on agriculture, we could miss a big part of the total need. Helping rural people, especially people who are disadvantaged, minorities or have limited resources and skills, to equip themselves to compete in the economic mainstream could well be your unique opportunity—your comparative advantage—as institutions.

Farming and rural are no longer the same (they never were, completely). The territory called rural, and the economic sector called agriculture still overlap. But farming is now a relatively small part of the larger food and fiber system. Most of the jobs in that system are in the input industries that supply farmers, and the downstream industries that market, process, transport and distribute products made from what farmers produce. Thus, if you want to prepare students for job opportunities in agriculture, broadly defined, you need to prepare them for where most of the jobs are—and that is not in farming.

Farming is also a shrinking part of the economic base of the territory we call rural or nonmetro. In very few counties in the South does agriculture account for as much as 20 percent of the economic base. For most people in the rural South the reality is that their economic opportunities lie outside agriculture and that will become more so in the future. Too many people in the rural South are not prepared to exploit those opportunities.

The Changing Rural Economy

Before World War II the South, and the rural South in particular, had the lowest level of economic opportunities of any region of the nation. The South lacked industrial development, and was mired in a pervasive system of tenant agriculture. During the 1940's and 50's the rural South experienced one of the largest population outmigrations in modern history. Many left the region although cities in the South received their share as well. The exodus was a result of labor displacements in agriculture resulting from technological and organizational change in the industry combined with a lack of off-farm industrial opportunities in the region and burgeoning opportunities elsewhere.

Conditions in the region have changed substantially during the last thirty years. During this time the rural South has become a principal center of the nation's economic growth and industrial development. The growth in manufacturing employment in the South between 1940 and 1980 exceeded the decline in agriculture by 750,000 jobs, thus transforming the Southern economy from one based on agriculture to one based on manufacturing. Southern leaders have aggressively promoted their region, extolling the virtues of cheap and abundant labor, a low level of union activity and a plethora

of state and local financial inducements. As the author James Cobb has noted, the South was "sold" in much the same way as any other product was marketed.

Data tell the story of the recent transformation of the Southern economy from a high dependence on primary industries—agriculture, forestry, fisheries, mining—to increased dependence on manufacturing and services. In 1980 less than 10 percent of Southern rural workers were employed in primary industries while over one quarter were in manufacturing and over one half were in services. Moreover the services and manufacturing sectors have each grown by over two-thirds since 1960, with the service sector growing most rapidly in recent years and manufacturing growing more rapidly during the 1960's.

Since 1980, new problems have arisen for the South's rural economy. Success in attracting branch plants created an economic base that was overly dependent on labor intensive, low skill manufacturing. Employment in nondurable goods manufacturing accounted for 15 percent of total employment in the rural South in 1983 compared with only 8 percent for the U.S. as a whole (Hines and Petrulis 1986). More specifically, apparel, textiles, wood products, leather goods, shoes and a few other low-wage industries now comprise over one quarter of nonmetro or rural wage and salary employment. Consequently, Southern rural economies are especially vulnerable to foreign competition for products and jobs. Robert Reich has noted, these "high volume standardized production facilities" can be established anywhere in the world. For these plants, cheap, low-skilled labor is the key human input.

New high technology industries respond to a different set of factors in searching for locations than is true of low-skilled manufacturing. Formal educational attainment of the workforce, literacy and other human resource attributes are critical. Since much of the rural Southern workforce is relatively deficient in these skills, there will likely be a mismatch between the job requirements in new industries and the skills resident workers bring to the job. Lyson and Falk noted, "Few truly rural places in the South have been able to attract these fast growth, high tech winners that some industrial policy proponents see as the future of the American economy". To the extent that such industries do locate in the rural South, vigorous educational and training programs will be necessary to retain a portion of the better jobs for residents, otherwise most good jobs are likely to be claimed by immigrants to the community.

Economic development in the rural South has been concentrated among low-wage low-skill industries and these jobs were an improvement over the previous situation and they contributed greatly to improving the economic well being of families in the region. However, the benefits of industrialization were spread unevely (both geographically and demographically).

Accordingly, poverty and low income, while improved, are still more prevalent in the rural South than in other areas. In 1980, 16 percent of Southern rural families were poor compared to 12 percent of rural families nationwide, and 10 percent of all U.S. families. And while the proportion has diminished during the last decade, one out of every two poor rural citizens lives in the South (down from 60 percent in 1973). Reduced concentration of rural poverty in the South does not result so much from improved conditions here as from a deterioration of conditions in other regions.

Over one-third of black families in the rural South is poor compared to 12 percent of whites who live in such areas. Poverty is particularly prevalent among black families in the rural South with a female householder—56 percent. These women are generally young, have preschool age children, have not completed high school and have few marketable skills.

The geographic spread of economic opportunities and of poverty is also uneven throughout the rural South. The Sunbelt of the popular press is checkered with pockets of slow growth, economic stagnation, and persistent poverty in addition to the much

vaunted growth of Atlanta, Dallas and other cities. Rural poverty is especially concentrated in a band across the mid-South to the Mississippi Delta and in Appalachia. What differentiates these poor areas is their population profile not their economic base. Most important is low levels of formal education, a high percentage of working age people who report work limiting disabilities and a relatively high percentage of both young and the elderly. The percentage of blacks in these areas is more than double the level for all nonmetro counties.

To summarize, while there has been a substantial amount of economic development in the rural South, and this development has contributed to improved economic well being of many rural families in the region, the distribution of benefits has been uneven and poverty is still prevalent. Moreover, the type of development that has characterized the rural South—low wage manufacturing—is now particularly vulnerable to foreign competition and job loss.

Human resource attributes of the region's workers are not consistent with occupational requirements of the fast growth, high tech industries of the future. Clearly, the economic well being of the rural South, and especially its low-income minority populations, is now at a serious crossroads. Education and skill training is probably the region's greatest need in the 1980's if it is to make a successful adjustment to industrial restructuring and/or recover from cyclical economic problems.

Agriculture in the South

Agriculture is still important in the rural South, but as an employer its importance has been dramatically reduced since World War II. Changes in agriculture no longer greatly alter the overall employment and population picture of the region. Agricultural employment accounted for only 3.2 percent of total Southern employment in 1980. However, 235 Southern counties still depend upon agriculture for at least 20 percent of their economic activity. These farming-dependent counties are diverse with respect to farm products produced, farm size and organization. In general, however, agriculture is not a major, or a growing part of the rural economy.

A significant component of U.S. agriculture is experiencing financial stress during the 1980's. About one-fourth of the farmers in the Northern Plains, Lake States and Corn Belt are experiencing financial stress. In contrast, only about 13 percent of all Southern farms are both highly debt leveraged and have cash flow problems. The generally lower proportion of farms under financial stress in the South may be explained in part by much smaller declines in farmland values during the 1980's for the region as a whole, the availability of nonfarm employment opportunities for farm household members, and probably more interest in using farmland resources for nonfarm purposes and for part-time farming.

Southern agriculture likely faces significant additional adjustments over the remainder of this century. A global agricultural economy is going through a competitive restructuring. Lower prices and strong competitive forces will pressure the United States to emphasize to commodities with efficient production. In this competitive environment, many traditional Southern crops will be under considerable pressure and many parts of the Appalachia and Southeast likely will not be competitive in producing most agricultural products. Considerable acreages in the region could well revert to trees, pasture and wildlife—recreation uses. In other words, Southern agriculture is likely to go through a "downsizing". If that happens, the opportunities for net additional employment in farming is slim indeed.

Blacks in Southern Agriculture

Black farmers have never accounted for more than about 14 percent of all U.S. farmers. The number peaked in 1920 at about 900,000 and has now declined to only

33,250 in 1982. In contrast, black farms were about a third of all Southern farms in 1920, and in 1950 they were still a fifth. The decline in black operated farms has accelerated since then. Black operated farms are concentrated in the Mississippi Delta and in the Piedmont and Upper Coastal Plain. The remaining black farmers operate very small farms and tend to be older than white farmers in the region. Almost half of all black farm owners operate farms with fewer than 50 acres, and half have annual product sales of less than $2,500. Thus, there is a great need for off-farm income if blacks are to stay on the farm. Ironically, black farmers tend to be located in slow growing counties where nonfarm opportunities are limited.

The heavy loss of farms operated by blacks can be attributed in great part to their historical concentration in the South, mainly as tenants on larger white owned operations. These landless black farmers typically lacked equipment of their own and management responsibilities. They were more like hired farm workers than farmers. In addition, blacks were heavily concentrated in those types of farming most affected by technology, namely cotton. Their fate was inevitable once Southern farming began to mechanize.

The lure of nonfarm job opportunities and the lack of inducements for young blacks to enter farming has led to an alarmingly high proportion of elderly operators. The average black farmer today is 57 years old compared to 51 years for white farmers, and about one-third of black farmers are 65 or older. Because of this old age distribution, further decline in the number of black farmers is certain unless there is a major increase of young blacks to replace them as they die or retire.

Prospects for the Region

Rural workers in the South will face a different set of labor market opportunities in the future. New jobs being generated in the Southern rural economy will be increasingly oriented toward information processing and decreasingly involved in manual tasks. The rural South will probably not capture a major part of the most sophisticated high tech jobs, but there is little doubt that information-based jobs will comprise the greatest share of new jobs and that traditional goods-producing occupations will decline. Moreover, the pace of technological change will reduce the "half life" of job skills. Workers will have to be able to adapt to changing occupational requirements over the span of their careers.

Literacy, then is the number one priority for economic development in the rural South. In 1980, only one-half of Southern nonmetro adults had completed high school and only about 10 percent had completed college. In contrast, two-thirds of all U.S. (and Southern metro) adults were high school graduates and almost one-fifth had completed college. The situation for rural Southern blacks is even worse. Only one-third had completed high school and 5 percent college. The Southern rural workforce is not well positioned to participate in the region's economic future. A massive training and retraining effort lies ahead if the majority of today's adults in the rural South are to be employable tomorrow. And, new entrants to the workforce must have basic educational skills as well.

This is even true for Southern rural workers currently involved in farming. At the household level, Southern agriculture has benefited from its close ties with nonfarm activities. Ironically, the viability of the manufacturing sector in the South is of utmost importance to the economic well-being of farm households, since a large percentage of them rely on manufacturing wages to support their operators. But, many of the factors that contribute to farm financial stress in the 1980's—high real interest rates, an overvalued dollar, and disinflation following immediately on the heels of inflation—are causing problems for Southern manufacturing.

Many manufacturing jobs gained in the late 1970's by Southern rural areas were in import sensitive industries such as textiles and apparel. Some of these jobs, given

the changed economic conditions of the 1980's, are being lost to overseas competitors. Accordingly the symbiotic relationship between farming and manufacturing is in jeopardy of being eroded. If this happens, many more farm households in the region will be forced to leave farming. Accordingly, these individuals will require new skills to support themselves in the future.

Roles for 1890 Institutions

How should the 1890 institutions respond to the setting of a rural South characterized by declining agricultural opportunities, erosion in traditional manufacturing employment, and a workforce largely unprepared for the job markets of the future? I will not presume any expertise on what your priorities should be. The major purpose of this entire conference is to help address that very question.

Nevertheless, please permit me the following observations. First, I am not suggesting that you should abandon agriculture altogether. There will be some successful new entrants into farming and it is important to see that all who have the basic potential are given the skills and opportunities for fair and equitable access to the farm sector mainstream. You can help equip them with those skills—through your classrooms and extension outreach. It is particularly important to not abandon your experience in working with limited resource and disadvantaged farmers.

Small farmers will continue to be a part of the diversity and pluralism of rural America, and can certainly help preserve and enchance the character of the rural South. Those small farms need help to use their limited resources to greatest advantage. In this regard, I am impressed with the efforts of some of your colleagues to teach entrepreneurship to limited resource farmers; that is teaching individuals how to take stock of their skills and resources and match those to sometimes unique market opportunities.

Second, while farming may offer only limited opportunities, there is a growing need for skilled workers in the other components of our food and fiber system. These include scientists, technicians, skilled workers and managers—in farm input industries, food and fiber processing and distribution industries, and in the research laboratories. Recent USDA studies suggest a likely shortage of researchers, teachers and extension workers in agricultural-related fields before the end of this century. The 1890 schools do not have any particular comparative advantage in providing training to meet these needs, but you do have experience and a comparative advantage in reaching a pool of potential students in the rural South that other institutions cannot or choose not to reach.

Third, the greater potential for building on the concept of entrepreneurship may lie beyond the farm sector. Much has been written about the importance of new small businesses in rural economic development. This trend, and the slowdown in the movement of major firms to rural areas since the mid-seventies, has led many planners to look to entrepreneurship as a source of new economic vitality for rural communities. 1890 institutions can play a role in entrepreneur ship.

We have long argued about whether entrepreneurial skills are inherited or learned. While the answer is still not known, it is clear that many more people possess the initiative and drive needed to create and run a business than have been able to put it into practice. The reasons for this are many, and include lack of finances and lack of business skills. 1890 Land Grant universities can support new enterprise development by teaching the skills needed to organize and manage a successful business.

The 1890 land grant schools and the Cooperative Extension system have a long history of teaching business management and entrepreneurship skills to farmers, whom they have brought from plowhands to farm managers. You could turn these demonstrated teaching skills to training rural people to start and run their own businesses. This type of program won't reach the vast majority of Southern rural workers but it will make

a difference for some individuals and in some local areas and could help increase the numbers of blacks and limited resource rural people who make it into the business mainstream. Extension could provide counseling and intensive education for those interested in forming new businesses. First time entrepreneurs seldom know much about business management, marketing or business planning. Nor do they know much about government regulations which would affect them.

Fourth, I believe there are opportunities for the 1890 colleges and universities to play a major role in upgrading the job skills and income opportunities for low income, black and other rural Southerners. This includes helping assure that new labor market entrants are better prepared as well as providing existing workers with the basic educational skills necessary to find new jobs in the South's changing economy.

There are a number of possible initiatives you might consider. Two come to mind. You may wish to examine your extension and adult outreach programs to determine if their goals are consistent with rural economic realities. Could you set up, or work with local leaders in your state to set up more effective adult education programs, especially for those caught in the economic backwaters? There are too many people in the rural South, especially among the black and the poor, who find themselves as low wage or unemployed adults, without skills and, frankly without much hope. Not everyone can become a computer programmer, but everyone can be functionally literate. Literacy will be the key to economic independence for individuals in the future. The time is not far off when the vast majority of workers will be required to be able to read and to effectively express themselves orally and in writing.

One more challenge. There are a large number of public elementary and high schools in the rural South desperately struggling to provide a decent education for a mostly lower income, often black, constituency. You are all too familiar with the reasons these schools find themselves in such straits. Could you do the necessary research to develop some consulting expertise that you could use to go into those schools and work with those struggling, frustrated principals, teachers and parents to improve their chances for turning out students who can either go on to college or succeed in a competitive job market? This could make a major contribution.

In summary, the 1890 colleges and universities face the challenge of reevaluating traditional programs with an eye to the future. This reexamination of priorities and programs must reflect the changing reality of the rural South and the changing needs of its people. Every generation and every useful institution must be responsive to the needs of that generation. That is the tradition of the 1890 institutions.

I believe that meeting today's needs could include providing rural Southerners with the education and job skills they need and the entrepreneurial skills and spirit to find and exploit emerging opportunities. If you continue to enhance your standards of excellence—practical, people—oriented goals—and extend your traditions of service, especially to those people in the rural South who tend to get left behind, you will be critical to the needs of the next generation, and it will be a glowing tribute to the example set by the man we induct tonight, Dr. Sidney H. Evans, into the George Washington Carver Hall of Fame.

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Acceptance of the George Washington Carver Award

Sidney Evans
North Carolina A & T State University

It is indeed an honor for me to be the recipient of the 1986 George Washington Carver Public Service Hall of Fame Award. As I humbly accept this award, I cannot help but give credit to the many people with whom I have come in contact and who have helped to make this possible in the thirty-five years of my professional life. Their cooperation and response have made it possible for me to stand here before you tonight to receive this honor. From the small farmers who took "on-farming-training" under my supervision in both Virginia and Georgia, through the many students who I taught at Fort Valley State College and N.C. A & T State University to colleagues in my present position as Research Director. I share with all of them the honor that I am receiving. I pay tribute to my lovely wife and children who tolerated my long hours of work and many nights absent from home. They are with me tonight. I also cannot forget my many relatives and friends who have stuck with me through the years, giving me the courage to continue. That includes my present support staff who are equally

excited about this award. Last but not least, I share this honor with my deceased mother and father and my stepmother.

This occasion brings back fond memories in my life. Over 30 years ago, I was married in Mississippi—too poor for a honeymoon and as we drove back to Fort Valley where I was then employed, we spent our first wedding night at Dorothy Hall here on the campus. This is an indication of Tuskegee providing opportunities and services to black people that were not provided otherwise! In those days, we could not stay in a Holiday Inn, a Sheraton, or a Ramada as we can today.

I am much closer to Tuskegee than many would think. The late Dr. Robert R. Moton, who served Tuskegee as president for over 20 years, was from my home in Gloucester, Virginia. He retired there in 1935. William Henry Carter, a past treasurer of Tuskegee, also retired in Gloucester. Mr. Carter was very instrumental in my receiving my first professional job in Gloucester County, Virginia. He was still active in community service after his retirement. It would not take much to make me a Tuskegeeian and, in that context, I want to say a few words of praise for this great University.

The contribution of Tuskegee is well rooted in the philosophy of Booker T. Washington and other forefathers of this great University, particularly George Washington Carver who did more with the peanut and sweet potato than any other scientist thought possible. Booker T. Washington created the outreach concept on which the Extension system is based. He was noted for carrying demonstrations to farms and setting up the "Model Farm" concept. I think we could well use more of this method today.

As Washington's idea escalated nationally over the years, it has become so institutionalized, programmatic, and bureaucratic that the system has become the object instead of the needs and problems of the rural community. We have become so preoccupied in enhancing the system, the institution, and the individual that we have lost sight of people and community development needs. Recently, we collectively developed a "research initiative" for small scale agriculture. In the small group that I worked with, we concentrated on farming systems research, employing a multi-disciplinary and a socio-economic approach. This is nothing new. When Booker T. Washington hitched his two mules to a wagon and his students piled in and journeyed to the rural areas, to teach new practices to farmers, he was exemplifying farming systems research and a multi-disciplinary socio-economic approach wrapped up in one.

Much of Tuskegee's development has been based on Washington's philosophy of helping people to help themselves. He preached "let down your baskets where you are." He also encouraged his students to go back to their community and make it a better place to live.

His philosophy was not merely a black philosophy. The "system" forced him to work only with Black people. But his philosophy was basic to the land-grant system and applicable to rural and community development. I am not suggesting that we turn back the clock or re-invent the wheel. I am simply saying that the land-grant philosophy where research, extension and teaching are combined to focus on rural and community problems and development has lost some of its effectiveness and meaning today.

The land-grant system is in transition and needs revitalizing and new approaches. The system should not become the objective. I think this is what Ed Schuh meant when he said, "My appeal is that we rediscover our intellectual roots and redefine and revitalize the land grant concept in terms of today's society." He added that "The basic challenge of today's land grant university is to bridge the gap between society's current problems and the frontiers of knowledge." In doing this we could benefit by studying the Tuskegee concept as it applies to today's problems.

In closing, I am grateful to Tuskegee University and the Professional Agricultural Workers Conference for making this occasion possible. To all, "God Bless". I thank you.

The C. A. Williams Memorial Lecture

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Agriculture and Education —Partners in Progress

Hon. Orville G. Bentley
Assistant Secretary For Science and Education, USDA

Starting in 1986, time is set aside at the PAWC to memorialize an individual whose career contributed to significant improvements in teaching, research and extension designed to advance agriculture in general and the profession in particular. Each year, one individual from the Land-Grant system is designated and the Memorial Lecture carry his/her name. In 1986, Alabama A&M University and Tuskegee University were responsible for designating Dr. C. A. Williams as the individual to be recognized.

The late Dr. C. A. Williams was born and reared in Stewart County, Georgia. He was educated in the public schools of that County; received his B.S. in Agriculture from Tuskegee University, his M.S. in Agriculture and his Ed.D. in Administration, Rural Sociology, and Rural Education from Cornell University.

During his professional years, Dr. Williams had several outstanding accomplishments. The most noted among them was his distinguished work with the Food and Agriculture Act of 1977. Through his persistent efforts in authoring the language of Section 1[4] (sub-sections 1444 and 1445), it was made possible for all seventeen 1890 Land-Grant Institutions to receive funds of approximately 30 million dollars annually for research and extension. He was a noted planner and manager. At A&M University he helped to organize the advancement of the University in the area of planning and management. He served as Chairman of the Planning Committees and was instrumental in organizing and directing the International Program. He also served as secretary for the Board of Trustees. Other professional experiences include: County Agent of Lawrence County, Alabama; District Agent Supervisor - Tuskegee University; Acting State Leader for Extension Work; Deputy Administrator, Program and Staff Development - Extension Service, U.S. Department of Agriculture, and Executive Vice President - Alabama A&M University, Huntsville, Alabama.

I am deeply honored to be here today to deliver this first Memorial Lecture. Dr. C.A. Williams, a distinguished Tuskegee alumnus, led a life of outstanding accomplishment and contribution. Without a doubt, he was the kind of man Dr. Booker T. Washington had in mind when he wrote: "Everyone's life is measured by the power that that individual has to make the world better—that is all life is."

Dr. Williams clearly worked to make the world better. From county agent in Lawrence County, Alabama—to Deputy Administrator for Program and Staff Development in U.S.D.A.'s Cooperative Extension Service—and as Executive Vice-President of Alabama A&M University, his life and career were committed to rural America and to this nation's agricultural and educational systems.

From its earliest history, the United States has had two special strengths in which we could take great pride and on which we could rely for our future. The two are our agricultural and educational systems. Together and separately, each has made tremendous and unique contributions to our country and our standard of living.

Most of us here today are involved professionally in both agriculture *and* education. We all have an intense personal imperative to maintain the vitality of agricultural research and our educational institutions. The specific reasons are many, but foremost among them is the nourishment of the minds, the bodies, and the social consciousness of all people, young and old.

In the 1980's, new social and economic developments bring about change at a rapid pace. There is a continuing need in dynamic institutions for self-analysis and for adjustments in teaching and research programs. The pressure for change is constantly accelerating. As a result, the level of rhetoric about the educational scene continues to escalate. Our institutions are feeling the brunt of the debate in the form of reports, critiques, and almost wholesale recommendations for changes in programs and shifts in educational philosophies.

I would like to touch on some of these developments as they impact on agricultural teaching, research, and the extension programs in our colleges and universities, as well as the U.S.D.A.

The U.S. Agricultural System—We start with a given: The production of food and fiber is essential not only to the well-being of our people, but to the future of our nation and to its place in the world community—in trade, commerce, and peaceful existence. Agriculture is the world's largest industry, with assets worth well over a trillion dollars in the U.S. alone. Yet, we are all rather painfully aware of the difficult situation that agriculture faces nationally and worldwide.

The U.S. has experienced severe declines in land values, leading to disruptions in capital markets and distress for many farmers and ranchers. Large surpluses of wheat, corn, sugar, dairy products, and soybeans lie piled in warehouses across the country, and world commodity prices are depressed. Yet, in parts of the world, especially Africa, hunger and malnutrition threaten millions. There are beacons of hope on the horizon.

1) Agriculture is a high-tech industry—and the engine that drives the technology is science and education. It is a well-known and oft-repeated fact that our scientific and professional expertise in food and agricultural sciences and natural resources is critical to the continuing security of this nation. The capacity to do research and understand science and its application is a valuable national resource.

In the past, agriculture has been an energy and labor intensive industry. Research and new technology offer the opportunity to reduce both of these costs. For example, plants can be bred with an inherent resistance to pests and disease in order to cut back on the use of chemicals, thus reducing the unit cost of production *and* any potentially harmful environmental effects.

We will continue to need more cost-efficient production in order for U.S. agriculture to compete in the world marketplace. In addition, the demand for agricultural expertise

will grow as society's requirements for food and fiber increase and as production resources diminish. The possible uses of science for agriculture are limited only by imagination and initiative.

Today, biotechnology — our newfound ability to understand the fundamental building blocks of genetic information — offers an exciting infusion of capabilities. The American Association for the Advancement of Science calls genetic engineering one of the four major scientific revolutions of this century — on a par with unlocking the atom, escaping the earth's gravity, and the computer revolution.

The biotechnology revolution in agriculture is part of an increasing sophistication of biological techniques for improving the production, processing, and marketing of food, fiber, and forest products. As a biologically based industry, agriculture is in an ideal position to reap major benefits from this expanded technological base.

2) Small-scale farming is another bright area in the future of today's agriculture. The USDA is, and always has been, interested in examining various farming systems which may have the potential to reduce farming costs and minimize environmental impact. That interest has accelerated in response to an increase in the number of small farming operations. The 1982 census of agriculture reported 637,000 farms under 50 acres, an increase of 17 percent from 1978.

Small-scale farmers are diversifying their agricultural investment, just as Dr. Carver suggested so many years ago. In addition, they are lowering production costs and raising profitability by taking advantage of new systems and products of American technology.

Strong research programs at the 1890 institutions and Tuskegee have laid a substantial base of data for the development of Extension Service programs for small-scale and limited resource farmers. The USDA is proud of the work we have done together— and we look forward to a continued long and mutually rewarding partnership.

U.S. Educational System

Our nation's schools have always been a powerful force for economic growth and social progress. As educators, we are all aware of the barrage of reports from business, government, and education groups in the past few years which warned that producing a literate labor force with proper skills is one of the chief challenges facing our country in the next two decades.

An article in a recent issue of *The Chronicle of Higher Education* highlights some meaningful indicators. First of all, a declining school-age population means a smaller labor force is in the pipeline. There will be stiffer competition among universities for capable and motivated students. Secondly, the National Assessment of Educational Progress states that while most Americans *can read*, many of them can't read *well enough* to cope with our highly sophisticated technological society. They have serious deficiencies in solving problems and analyzing information. This means they will find it harder and harder to keep up with rapid technological innovations in the workplace.

Fortunately, the problem is not going unnoticed. Roger Semerad, Assistant Secretary of Labor for Employment and Training, wrote, "The technological age is going to be different, with different pressures, different demands, — and the assumption that just by magic America will maintain this great standard of living is a dangerous attitude." He believes, as I do, that education is one of the primary things that is going to distinguish and enhance this country's ability to compete.

How should we, as institutions of higher education, respond to that challenge? What goals should we be considering at this time? The key word in that question is "goals". We should be clearly setting them. How can we guide students entrusted to us if we are unclear as to where we are going? In short, can new strategies be planned now to meet near-term as well as longer range needs? The answer is "yes."

Our institutional *integrity* requires a certain continuity, but within that framework, we must maintain a *flexibility* which allows us to take risks and respond to challenges. A recent survey of chief executives, higher-education officials, and scholars who study the college presidency revealed a picture of the effective college president as a "risktaker with a dream." That should be no surprise to us when we have the example of Booker T. Washington so clearly before us in the illustrious history of Tuskegee.

One of the risks we must take is the decision that we cannot be all things to all people. We must set priorities for our resources and our commitments. The first priority must be our students. Study after study shows that today's young people are understandably concerned with material acquisitions and financial well-being. What about general education on "how to live," — history, cultural values, the arts? Are materialistic values getting out of balance with broader educational needs?

This nation and the world need well-informed, inquisitive, open-minded young people who are both productive and reflective, seeking answers to life's most important questions.

Above all, we need educated men and women who not only pursue their own personal interests but are also prepared to fulfill their social and civic obligations.

We have the outstanding examples of men like Dr. Washington, Dr. Carver, and Dr. Williams — and many, many more. We honor them not only out of tradition, but because their ideas and achievements live on for us in the lives of countless thousands across the nation and around the world.

This commitment to community and direct service to people is a tradition of which Tuskegee and the 1890 institutions can be proud. Robvert Lovvorn, a former administrator of the Cooperative State Research Service, recognized it when he wrote, "Not only have they demonstrated a unique capability for understanding problems confronting minority races and disadvantaged groups, but they have also shown they possess the motivation, training, ability and desire to work toward solution of problems facing our entire society."

Our Land-Grant

Society owes an incredible debt to both agriculture and education. Fortunately these two systems are not separate monoliths in the U.S.; they are linked at the institutional level. Their union in a "land-grant philosophy" has been the foundation of America's agricultural production for nearly 125 years.

Last week at USDA's annual outlook conference, Assistant Secretary for Economics Robert Thompson said that much of the competitive advantage of U.S. agriculture rests on, "the cumulative investment that has been made in agricultural research and extension over the past century." The federal investment in these joint federal/state programs began 100 years ago with the signing of the Hatch Act. In March, we celebrate the centennial of that act as the expression of the belief that it is in the public interest to supply funds to finance research.

While the 1890 institutions had always practiced this same time-honored tradition of making agricultural knowledge a public good, it was not until 1972 that individual grants signaled the beginning of significant federal support for agricultural research and extension at Tuskegee University and the 1890 institutions.

With the passage of the Food and Agriculture Act of 1977, the 1890 schools began to receive *sustained* federal funding for agricultural research. Thanks in large measure to the persistence of C.A. Williams, these scientists now have the backing to develop purposeful and long-range programs which place them in the mainstream of the nation's agricultural research system.

But these researchers do not exist in an ivory tower. Research is closely linked to extension in the same way agriculture is linked to education. Not only are we the tree shakers who gather the fruit, but we are the jellymakers who put it to good use.

Research at land-grant institutions is relevant to the current condition of agriculture. It is created in response to the actual problems of constituents and shared through practical application.

That is where you have been so successful in the past — and where your greatest challenges lie in the future. Secretary Lyng went into these challenges in more detail yesterday, but I want to remind you of them. He noted:

1) If small and moderate-sized farms are to survive as major contributors to American agriculture, they will need to adopt the new biotechnology rapidly, and they will need to rely even more than now on publicly sponsored research and extension education.

2) Your historic work and help for limited resource farmers is more necessary than ever as many farmers turn to alternate crops or small-scale farming to augment their incomes.

3) From maximizing production, there must be further efforts in minimizing costs. American agriculture's competitiveness relies on the profitability we can achieve by reducing our unit cost of production.

4) All of these changes are having a tremendous impact on the rural family and community. Your work in these areas is crucial in a time of economic, technical, and social evolution.

In *conclusion* - Today the continuity of our nation's essential agricultural research and education depends on our schools, colleges, and universities. As rapid social and economic developments press changes on society, they bring new and challenging demands to these institutions.

Dr. Carver wrote that "without vision, there is no hope." Secretary Lyng talked about our "common dream of a future in which American agriculture is strong and prosperous." You and I share that vision, C. A. Williams shared that vision. I believe that from our colleges and universities will come many more leaders like him to help keep that vision alive. By putting education and agriculture to work together in the service of rural America, we are insuring that its future will be prosperous and bright.

Production of Food and Fibers in Response to Need

A Global View, A National Perspective, A Regional Need*

Ann E. Thompson, Ned Browning
Alabama Cooperative Extension Service

Needs...needs...needs—It seems everywhere we turn, we are bombarded with messages about others in need—the hungry, the ill-clothed, the sick, the homeless, the politically disenfranchised.

Because of our exploding information system, we're much more aware of problems than our ancestors were.

We find two very realistic appraisals of the human social condition in Judeo-Christian scripture. Jesus reminded his disciples that, "The poor you will always have with you." (Matthew 26:11)

He was quoting a much earlier concept expressed in the basic Hebrew law in Deuteronomy; "There will always be poor people in the land. Therefore I command you to be openhanded toward your brothers and toward the poor and needy in your land." Poverty and need are not new.

More people are in need than ever before and there are more ways for us to know about them.

More than 70 percent of the world's population is rurally based. Half are directly involved in agriculture. Yet, nearly 500 million people—more than twice the U.S. population—are hungry in a way that threatens their survival.

Belated worldwide attention to sub-Saharan famine has focused on one type of hunger. However, hunger due to poverty is likely to hurt fifty times more people than will be harmed by famine. Taking the long view, the answer to hunger is not just immediate redistribution of surpluses in developed nations. The call is to develop sufficient resource bases to bring the world's poor to the threshold of buying power.

In the mid-twentieth century, developing countries were seeing some measure of expanded food production. However, worldwide recession, energy costs and credit costs have stymied that progress in the past 15 years. The result—a widening gap between the demand for food and the ability to buy it. Between 1970 and 1981, developing nations' commercial purchases of U.S. farm products jumped from $1.1 billion to $15.4 billion. In the same relative timespan (1970-1984), total debt in these countries ballooned from $68 billion to $686 billion.

What is needed is assistance to make developing nations, and the poor in developed nations, self-sufficient. This does not mean independent from a world economy, but independent enough to take advantage of the economy. If the developed nations can help the underdeveloped with basic skills, we will benefit from a more politically and economically stable world. Those skills are not the high tech ones for which the US is retooling. They are the basics of agriculture that allow generations to grow healthy and then enter into world trade.

A Value System to Meet Needs

Economist Kenneth Boulding maintains that we make personal and corporate decisions based on a value system of "What is near is dear." We are more likely to respond to needs of those immediately around us. We take care of our own—family, friends, and local community.

But, Boulding raises the question, "What happens when everything becomes near?" Because of worldwide communication and transportation systems, we now live in a "Global Village."

In 1984, John Maxwell Hamilton, World Bank public affairs official, challenged small new organizations to find third world news on their own doorsteps. The Hattiesburg, Mississippi *American* newspaper accepted the challenge and, in the words of its editor, "turned up more stories than anyone could have expected. Even more surprising was a follow-up survey that showed extremely high readership by daily journalism standards.."

An International Connection

Since the Alabama Cooperative Extension Service headquarters are in Auburn, we decided to take a similar approach and locate international connections within that community. A cursory assessment found much international flavor in a university setting.

An example of the international market for local products is found in the DeepRock Manufacturing Company in neighboring Opelika. The business produces do-it-yourself and commercial well drilling equipment. During 25 years in business, DeepRock has exported 20 to 25 percent of its sales to 65 countries. Many orders come from relief agencies to aid in such drought-stricken places as Ethiopia.

Because of significant regional textile manufacturing operations, imports are a sensitive issue in the Auburn area. Nevertheless, they are a reality. From the automobiles we drive to the toys we buy for children at Christmas, imports are always at hand. In the largest retail chain stores or the smallest locally-owned shops, imports make up noticeable segments of inventory and sales to Auburn residents.

Technically, most citizens of Auburn, ancestral home of the Creek Indians, are immigrants. But, even when using the social convention of defining persons of Anglo- or Afro-American ancestry as native to the area, we find an appreciable number of migrants. In Lee County (population 76,283), the 1980 U.S. Census found 409 persons of Asian and Pacific Island origin, 791 of Spanish origin, 106 American Indians, 18,652 blacks, and 56,869 whites. The Auburn student body accounts for 330 foreign national citizens in the community and they come from nearly 40 developing nations

Auburn's major industry, the land grant university, has reached into the world's developing nations for more than three decades. Its fisheries program, begun in 1934 to deal with nutrition problems of the South's poor, became its first major international program.

The International Center for Aquaculture was established in 1970 in agreement with the Agency for International Development (AID). Over the past two decades, Auburn has been involved in long-term technical assistance projects in Africa, Asia and Latin America. Auburn specialists have been involved in 85 countries. And for more than 40 years, students from developing nations have come to Auburn for training and research.

With 300 Auburn-trained fisheries specialists abroad, the International Aquaculture Network was set up in 1985. This system allows a fisheries specialist in Brazil, for example, to call on the special expertise of a scientist on the Auburn campus or elsewhere within the network to help solve a problem in some isolated village.

Through AID's Agro-21 program, Dr. Bill Gazaway, Extension Plant Pathologist and Nematologist, is helping improve Jamaica's commercial vegetable productivity. This year 1,000 acres of peppers, cucumbers and zucchini squash were planted. Dr. Gazaway has designed a plant protection program for them.

Beyond the realm of food production, the University's Center for International Commerce (CIC) works with Alabama businessmen. This service helps them enter the world market with a more competitive edge.

Practical Exports

The global challenge is to answer the natural skepticism that arises when it appears that our altruistic action will develop competitors for ourselves. Our fellow earth-dwellers on the other side of the globe are near, not just through the amazing eyes of satellite-aided television. They are as near as our pocketbooks.

Many folks think the U.S. is selling its birthright by exporting technology—especially in the agricultural sector. But, consider the points that the Council on World Hunger, Development and Trade Information makes about helping other nations develop agriculture.

Despite an apparent overabundance of agricultural stocks, most of the world is too poor to take advantage of them. National socio-economic structures can't afford the transportation and distribution systems to get food and fiber to their people. And, even when supplies are available, individuals can't take advantage of them.

An argument in favor of aiding such underdeveloped countries amounts to the fact that an improved lifestyle encourages improved resources for consumable goods, which in turn expands markets.

Granted, as developed nations adopt the technology we have to export, they become poorer customers and tougher competitors. The challenge is to shift trade partnerships to those nations with improving lifestyles and growing interests in better quality food and fiber.

Responding to Needs

A currently popular response is the "quick-fix" or a cosmetic approach to the problems of human needs. We have, over the past several years, witnessed a variety show of "Aid" events. Staged to sensitize people to others needs, these events raise one-time funds to meet those needs. The question is, "Do such mass media-hyped productions serve any lasting purpose toward a long-term solution?" Only history can tell.

One thing we do know is that the Cooperative Extension System of education to meet human needs has worked well over eight decades. Born into a time when a large portion of the United States subsisted in a "third world-like" state, this system has provided the bootstrap by which many rural people have pulled themselves up.

As the Global Village began readily to take shape in the post-World War II era, the U.S. began to export its technology. With the technology went techniques—techniques for diffusing innovation, techniques for social change, techniques that could aid the world's needy. One of those exports was the model for extending research-based knowledge to the general public.

The Extension model is a dynamic system oriented to the development of educational programs to meet changing needs of diverse groups of people. The process of Extension Education involves working *with* people and *not for* them.

Extension joins with people in helping them identify needs, problems and opportunities. Together they study their resources. And, finally, they arrive at desirable courses of action. In contrast to formal classroom instruction, Extension emphasizes the involvement of people in determining, planning and carrying out programs that meet their individual and group needs.

Realistic Approaches

Our challenge is to develop a global vision, all the while realizing that although we live on the same planet, we live in distinctly different worlds. The U.S. extension educational model is a valuable export but it must be tailored to the nation importing it. Decades of international development work have told us that indigenous culture must be considered if we are to truly aid in development, not just follow the colonial path of exploitation.

The realization of distinct differences comes home when one considers the tools of extension education in the United States and in a third world nation. In the U.S. we are adopting such information delivery tools as the computer network, audio/video teleconferences, computer-assisted instruction, home-based instruction via video cassette tapes, the list can go only as far as the technological imagination of our day.

Yet, in a developing nation with no consistent electrical power system, and erratic telephone system and no family income for more than the essentials, all these technologies seem exotic, even absurd. One sees quickly that what must be exported are extension education principles, not technologies.

Self-help to Meet Needs

The most crucial principles for export include skills in problem identification, goal determination, analysis, evaluation and choice. Just as they enhanced the lives of early twentieth century Americans, these principles can help others around the world to develop the traits of character, qualities of leadership, and knowledge of issues and concerns that enable them to be productive citizens and to effectively adjust to an ever-changing society.

The developing nations of this world are growing nearer and thus dearer to us every year. If we can grasp the idea that their welfare is our welfare, we will realize a more stable and prosperous life, both here and abroad. Export of extension methods and their principles will develop international partners, not international competitors in the business of responding to food and fiber needs.

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Wise Resource Utilization in Food and Fiber Production

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A topic such as "Production of Food and Fiber" can be discussed from several approaches. My approach will be from the resources arena. This raises immediate questions.

What will be the long-term capability of our agricultural resources to produce food and fiber? As a society, our welfare hinges directly on the ability of our available natural resources to sustain us, our children, and their children with the basic necessitites of life: food, shelter, clothing. In the past, our abundant natural resources served us well even in times of drought, war, and rapidly expanding populations.

What of the future? We continue to utilize resources in fixed supply—minerals, petroleum, soil—and the slowly renewing resources—timber, range, pasture—at ever-increasing rates. Our population and the world's are certain to continue to grow, exerting even more stress on the resource base. Will this growth lead us inexorably to a period of overused resources and scarce food?

A Changed World Economy

Today, we live in a changed world economy. It is not difficult to look at the successes of Japan, South Korea, and West Germany to see that our economy is worldwide. Let's reflect on the resource and agriculture arena.

Ten years ago, the Club of Rome declared that desperate shortages for all raw materials were an absolute certainty by the year 1985. In 1980, the Carter Administration's "Global 2000 Report to the President: Entering the Twenty-First Century"concluded that world demand for food would increase steadily for at least 20 years; that worldwide food production would fall except in developed countries; and that real food prices would double. This forecast helps to explain why American Farmers bought up available farmland, thus incurring the heavy debt that now so threatens them.

Contrary to all these expectations, global agricultural output actually rose almost one-third between 1972 and 1985 to reach an all-time high. It rose the fastest in less-developed countries. Similarly, production of practically all forest products, metals, and minerals has gone up between 20 and 35 percent in the last ten years—again with

the greatest increases in less-developed countries. There is little reason to believe that growth rates will slacken, despite the collapse of commodity prices. Indeed, as far as farm products are concerned, the biggest increase—at an almost exponential rate of growth—may still be ahead.

In the late 1920's, before the Great Depression, farmers still constituted nearly one-third of the U.S. population and farm income accounted for almost a quarter of the gross national product. Today they account for less than five percent of population and a lesser percent than the GNP. Only in the Soviet Union is the farm still a major employer, with almost a quarter of the labor force working on the land.

Why This Change?

Demand for food has actually grown almost as fast as the Club of Rome and the Global 2000 Report anticipated. But the supply has grown much faster! It not only has kept pace with population growth, it has steadily outrun it. One cause of this, paradoxically, is surely the fear of worldwide food shortages, if not world famine. The United States had a farm policy of subsidizing increased food production.

The greatest increases in both absolute and in relative terms, however, have been in developing countries: in India, in post-Mao China, and in the rice-growing countries of Southeast Asia. And there is also the tremendous cut in waste. In the 1950's, up to 80 percent of the grain harvest of India fed rats and insects rather than human beings. Today, waste is down to 20 percent. This is largely the result of unspectacular but effective "infrastructure innovations" such as small concrete storage bins, insecticides, and three-wheeled motorized cars that take the harvest straight to processing plants.

It is not fanciful to expect that the true "revolution" on the farm is still ahead. Vast tracts of land that hitherto were practically barren are being made fertile, either through new methods of cultivation or through adding trace minerals to the soil. The sour clays of the Brazilian highlands or the aluminum—contaminated soils of neighboring Peru, for example, which never produced anything before, now produce substantial quantities of high-quality rice. Even greater advances have been registered in biotechnology, both in preventing diseases of plants and animals and in increasing yields. While population growth of the world is slowing down quite dramatically in many regions, food production is likely to increase sharply.

Import markets for food have become extremely competitive. As a result of its agricultural drive, Western Europe has become a substantial food exporter. Farmers are plagued increasingly by unsalable surpluses of all kinds of foods, from dairy products to wine, from wheat to beef. China, some observers predict, will become a food exporter by the year 2000. India is about at that stage, especially with wheat and coarse grains. Of all major noncommunist countries, only Japan is still a substantial food importer, buying abroad about one-third of its food needs. Today most of this comes from the United States. Within five or ten years, however, South Korea, Thailand and Indonesia—low cost producers that are fast increasing food output—are likely to try to become Japan's major suppliers.

The only remaining major food buyer on the world market may then be the Soviet Union—and its food needs are likely to grow. However, the food surpluses in the world are so large—maybe five to eight times what the Soviet Union would ever need to buy—that its food needs are not by themselves enought to put upward pressure on world prices. On the contrary, the competition for access to the Soviet market among the surplus producers—the United States, Europe, Argentina, Australia, New Zealand (and probably India within a few years)—is already so intense as to depress world food prices.

New Resource Policy

The SCS and university researchers have been conducting in-depth analyses over the past few years in response to the Resource Conservation Act (RCA). In addition, the 1985 Farm Security Act, more specifically the Conservation Title, may have lasting impacts on resource use.

The 1977 Act's second appraisal of the status, conditions, and trends of the nation's soil and water resources is in the final stages of completion. As part of the appraisal, a detailed analysis of resource use and condition trends was completed along with long-term projections to the year 2030. Using projections of (1) land and water availability, (2) domestic and export demand and (3) technological change, several sets of projections or resource conditions were developed representing alternatives or national policy, demands, and productivity. Central to these sets of projections was the anaylsis of the long-term effects of the Conservation Title of the 1985 Act, namely the provisions for the Conservation Reserve and for conservation compliance after 1990.

The 1982 Natural Resource Inventory (NRI) estimated that the U.S. has 421.4 million acres of cropland, 539.2 million acres of nonfederal pasture/range land and 393.7 million acres of nonfederal forest land. How much land will be available 50 years in the future? As time passes, land will be transformed from one use to another; as the population grows, more and more land will be required for urban and other non-farm uses. At what rate will this transformation take place? For the alternative future analysis the conversion rate of 1.5 million acres per year was adopted. Of these 1.5 million acres, 63.8% was assumed to come from cropland, 17.5 from pasture/range, 13% from forest land, and 5.7% from other sources.

The Outlook for Future Demand

Commodity demands are critical to future resource use, resource deterioration, and conservation opportunities and needs. Agricultural commodity needs include domestic food and feed, and industrial uses. Domestic and industrial uses depend in large measure on population and income and are relatively easy to project given acceptable population and income projections. For the RCA Appraisal, population and income projections from the Bureau of Economic Analysis, Department of Commerce, were used as a basis for agricultural demand projections by the Economic Research Service (ERS), USDA.

Agricultural export demand, as the last few years have demonstrably shown, are volatile through time, depending as they do on global economic markets, world climate and weather patterns, and international politics. The rapid expansion of U.S. farm exports in the Seventies—tripling in tonnage, sextupling in value—was fueled by world economic growth, expansion of credit, new trade with previously closed economies, and a weak dollar. The collaspe followed global recession in 1981 which served to strengthen the dollar, foster trade barriers, and force restructuring of Third World debt (one condition being forced austerity and reduced Third World imports).

At the same time, world competition increased because of improved productivity abroad. This productivity resulted in part from Green Revolution technological advances and partly from agricultural policies offering price incentives and subsidies to farmers. Twenty-five countries now have farm surpluses including Finland, Indonesia, Saudia Arabia, and China. While the farm export picture is not as bright as it seemed a decade age, it is unlikely that exports will stagnate or decline in the long term. World population and income will continue to grow while the Amercian farm sector will become more competitive because of improved production efficiency and an advanced factor and marketing infrastructure.

Technology and Innovation

Successful maintenance and expansion of the U.S. share of world agricultural markets will depend upon production efficiency in the American farm sector. Production cost per unit of output must continue to decline if the U.S. is to become competitive, an event that requires the successful development and adoption of new technology.

The Office of Technology Assessment (1986) states that advances in biotechnology and information technology will revolutionize plant and animal production in a decade and a half. Productivity gain is defined as an increase in physical output given constant dollar inputs. Just what the productivity gains will be is difficult to foresee given the complexities of the biological, mechanical, and economic interrelationships in farming. In the RCA appraisal, productivity improvement estimates were developed in a symposium held in 1982 in Washington, D.C. Agricultural experts from all disciplines and from all parts of the country were called upon to relate their work in agricultural research and production with estimates of future productivity.

These projections pose some profound implications for agricultural production in the next half-century. Feed grains, wheat, and soybean yield will double in the 1982 levels, livestock productivity will increase 60 to 70 percent, while catfish productivity will triple. Given constant—or modestly increasing—demands for agricultural products, pressure on the resource base will diminish. The complexities of production for food and fiber in addition to the above have also been impacted by the conservation title of the 1985 Farm Bill.

Conservation Reserve - The first major provision is a program under which farmers take highly erodible cropland out of production and plant it to permanent cover. Eligible cover is native or introduced grasses, legumes, trees, windbreaks, or wildlife plantings. The farmer gets a 50-percent cost-share for establishing cover and agrees to maintain the cover for 10 years under contracts with the government. Under the conservation reserve, the goal is to retire between 40 and 45 million acres of highly erodible cropland by 1990. The latest inventory of natural resources in the U.S. shows that we have about 420 million acres of cropland. The reserve, therefor, could potentially remove about 10 percent of U.S. cropland from production for 10 years. To date, farmers have enrolled about 9 million acres for the program. This indicates that for the most part they now understand the program and accept it. On a national basis, most of the land being reitred was in wheat. The next signup will bring 5 to 10 million more acres into the program for the 1987 crop year. That would put some 15 to 20 million acres in the reserve by the end of 1987.

Swampbuster - A second provision of the bill is called the swampbuster. Under the provision, farmers who convert wetlands to cropland become ineligible for certain USDA program benefits. This provision was enacted because some government programs encouraged farmers to convert wetlands to cropland by allowing them to include converted wetlands in their base acreage for those programs. In light of the current commodity surpluses, this just doesn't make sense. Many wetlands are also valuable as wildlife habitat, sediment traps, and flood control areas. Less than half the wetlands that originally existed in the U.S. still exist.

Sodbuster - Under this provision, farmers become ineligible for certain USDA program benefits if they plow out and plant crops on highly erodible grazing lands and woodlands. Like the Swampbuster, this provision removes government incentives for an undesirable practice. Sodbuster may have more impact than swampbuster. The nation has about

225 million acres of highly erodible pasture, range, and forest land—much of which has the potential for conversion to cropland. The provision doesn't say that farmers or ranchers can't plow out these highly erodible lands—only that they won't be eligible for USDA farm programs unless they control erosion on them. Given today's economic climate, however, most farmers will likely find the potential loss of eligibility for certain USDA program benefits a compelling reason to control erosion in such areas.

Conservation Compliance - A fourth provision removes incentives to farmers for continuing to plant crops on highly erodible land without adequate erosion control. Farmers who want to continue cropping these lands and stay in USDA programs need to have and apply a conservation plan approved by the local conservation district.

How much land is involved? SCS estimates are that almost 120 million acres of cropland—more than one out of every four—are highly erodible. Nationwide, we think that about half of the highly erodible cropland is now protected by an adequate conservation system or has a current conservation plan now being applied. That leaves 60 million acres that are now being cropped without adequate protection from soil erosion. One of the major objectives is to reduce erosion to acceptable levels. Much of this will be taken care of through installation of suitable conservation practices, with minimal effect on demand for seed. A good share of this highly erodible cropland, however, will be retired under the Conservation Reserve Program. The reserve will probably mean a significant increase in demand for grass and legume seed. Conservation compliance is not effective until January 1, 1990. By then, if producers who are farming highly erodible land wish to continue their eligibility for certain USDA program benefits, they must have—and must be actively applying—conservation plans on that land. They must have that plan fully in effect by 1995. All plans are approved by the local conservation districts keeping decisions at the local level. We can't afford to wait until 1990 to start developing these plans. If we do, we won't have the staff to handle requests for assistance from a million farmers at once.

Conservation Title Impacts on Agriculture

While certain impacts will be felt immediately with the establishment of the Conservation Reserve, the major impacts will occur some years after 1990. The conservation compliance provisions then take full effect. Accordingly, this discussion will be limited to the results of the Farm Bill projections for the year 2030.

The most significant result of the Act's long-term projections is entirely independent of the Farm Bill. This result is dependent instead on the interaction of projected demands with projected technology. If the agricultural sector is required to satisfy only domestic and export commodity demands with no additonal demand pressures resulting from commodity programs and other USDA policies, then only about half the agricultural resources now expended in production will be requried by 2030. By 2030, projections show that commodity demands can be met with 218.5 million acres of our best cropland.

There are some components of mandatory crop control. Under such control, USDA analysts would expect prices to double in 1987 and rise another 10% by 1990. Dairy prices will rise by 30%. USDA prices would be twice as much as world prices. Such a plan would require severe acreage cuts, probably in the range of 50-55%. Acreage of major crops by 1990 would probably be 46 million less than 1986. In any event, this result poses tremendous implications for both conservation planning and for the viability of today's marginal (or family) farm.

What this says is that for the next half-century, supply will increase faster than demand, forcing continued downward pressure on total farm revenue. The rewards in agriculture will go not to hard working farmers but to capital-resplendent innovators. From both

the conservation and economic standpoints, the best public choice will be to preserve erodible cropland rather than to treat it and farm it for the production of surpluses.

If the Conservation Title of the 1985 Farm Bill stands, it implies significant changes ahead for the farm sector. The Conservation Reserve will retire approximately 40 million acres of eroding cropland, mostly in the corn belt because of its preponderance of eligible cropland. Because the Conservation Reserve will retire some highly productive (though erodible) cropland, production will be stepped up on land not retired so that total erosion will be affected only slightly; the projection being a reduction of 5.4% in gross erosion total tons.

In closing, let me share with you a personal example of which reflects a changing structure. I grew up on a 150-acre tobacco, cotton, corn farm in eastern North Carolina. That farm and the four farms of our neighbors each functioned somewhat independently as an economic unit, and functioned to serve as the total economic support for about 12-15 families. Today my cousin and his son, who own no land, operate all these farms plus several others as a viable economic unit. This has happened throughout the Nation but especially in the South. Not one of these farms could come close to operating independently as a viable economic unit today. We have seen and will continue to see the structure of American agriculture continue to change.

I predict we will see two kinds of farms as we move toward the year 2000; one being the larger farms supplying the bulk of food and fiber and two, the rather smaller, part-time catering to trade markets. Thus, I see our future in the production of food and fiber in response to need, not dependent on an adequate supply of land, water, and technology. Although water and water quality will become increasingly important, but more dependent will be our ability to adjust to a changed world economy, our ability to compete competitively in the world export market, and the associated politics of agriculture and conservation on a worldwide basis. Some of our greatest difficulties may lie in reaching a political concensus in what we want to do and where we ought to go.

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Farm Structure and Socioeconomic Conditions

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Introduction

Much of the social science literature on agricultural structure has characterized the farm sector as undergoing an uneven process of development. Researchers have noted the dualistic tendency toward a growing number of smaller farms and an increase in the proportion of agricultural sales by large farms. While changes in the structure of farming have been well-documented, comparatively few studies have examined the effects of various farm structures on the socioeconomic conditions of individuals and their communities. This issue is particularly important in the context of Southern agriculture. The South has experienced more rapid farm change in recent years than other U.S. regions. Declines in farm numbers and in full-owner operations and increases in dependence on off-farm work and hired labor have occurred at a faster rate in the South. Moreover, the South has historically experienced the lowest socioeconomic conditions, such as greater poverty and lower family income. It becomes critical to examine how the development of the farm sector has shaped socioeconomic condtions and delineate the farm structures that can improve conditions.

Farm Structure and Socioeconomic Conditions

The work of Walter Goldschmidt has been a starting point for studies which have examined the socioeconomic impacts of farming. In 1944 his case study of two rural communities in the San Joaquin Valley, one dominated by large, industrial-like farms, the other by family farming, found higher socioeconomic conditions in the family farming community. He attributed this to farm scale. Since the work of Goldschmidt, a number of other studies have examined the relationship between farm structure and socioeconomic well-being. Most studies hypothesize that large-scale, industrial farming, dependent upon hired labor will have a detrimental impact on socioeconomic conditions; smaller scale, by contrast, will enhance comunity life. Socioeconomic impacts examined have included: population, class structure, levels of income and living, quantity and quality of community services, political and community social participation, unemployment, retail sales, and environmental concerns. Much research, particularly before the early 1980's, tended to support Goldschmidt's hypotheses. More recent findings, however, have been mixed.

There are a number of reasons for these recent divergences. Later studies have more thorougly controlled for nonfarm factors, such as urbanization and nonfarm employment. As economic development proceeds, these nonfarm factors can be expected to be more important determinants of socioeconomic conditions than farming itself. The Office of Technology Assessment (OTA) also reports that unionization of arm labor, social welfare programs, and labor laws favorable to hired workers, which have increased from prior decades, can reduce the negative impacts of industrial farming.

Few studies have been longitudinal or able to examine impacts over time. Previous studies also have possibly misspecified the relationship between farm scale and well-being by examining only linear, rather than curvilinear relationships. Some findings note that Southern counties with either smaller or very large average farm scales were more likely to have higher levels of unemployment.

A general hypothesis is that industrial-like, corporate farming dependent upon hired labor will lead to lower socioeconoic conditions, while family units (both smaller and larger family farming) should have the converse effect. To test the hypotheses, this study employs county level data from major secondary sources, such as the Census of Agriculture and Census of Population. The Censuses which most closely correspond to the time periods were conducted in 1969 and in 1978. A total of 1378 counties in the states comprising the U.S. Census Southern region were analyzed.

Farm Structure

To operationalize farm structure, measures which reflect structural change or differentation were needed. These measures also had to have the county as a geographical referent and had to be comparable over time. Using factor analysis, Wimberley has developed indexes of county farm structure constructed from items reflecting differentiation in organization, scale, and operator/household characteristics. Each index is composed of several items from the Census of Agriculture. The indexes measure three major patterns of dimensions or farm structure found in U.S. counties. Three farming patterns (or factors) emerge and the same variables tend to load highly on the same factors. The three indexes of Southern farming patterns are described below.

Corporate/Commercial Farming—This pattern reflects a county farm structure organized along corporate lines. Farm labor requirements, as indicated by expenses for contract labor, are high. Items used in constructing the index for corporate/commercial farming are: the number of corporate farms in the county and expenses for contracted labor.

Larger Family Farming—Larger family farming tends to be very capital rather than labor intensive with high investment in machinery and equipment. Thus, while not traditional family farming (as defined by operator control and ownership over major porduction factors), this farming pattern emcompasses certain characteristics of family farming such as use of little hired labor. Items comprising the index for large family are: (a) the proportion of county's land in farming; (b) number of farms operated by tenants; and (3) the estimated market value of farm machinery and equipment.

Smaller Family Farming—This describes a pattern of those having less than $2500 in annual sales, operated entirely by owners who reside on the farm. This pattern is also characterized by many part-time operators who work off-farm for 200 or more days per year. It reflects the differentiaion of family labor producers into marginalized farmers via off-farm labor opportunities. Items used in contructing the index for smaller family farming are: (a) the total number of farms in a county; (b) the number of small farms, with sales less than $2,500; (c) the number of full-owner operated farms; (d) farm residency; and (e) the number of operators working 200 or more days off-farm.

Socioeconomic Conditions

Measures of economic well-being, which should most directly reflect the costs and benefits of these sectors, are employed as indicators of socioeconomic conditions. Measure

of economic well-being "serve as indicators of class structure, life chances, life style, and are essential in community quality of life." Three indicators were selected: (a) the median family income of the county; (b) the percent of county families in poverty (a measure of absolute deprivation by Census definition); and (c) the Gini coefficient for family income inequality. Poverty and median family income are reported directly in the Census of Population, while the Gini coefficient was developed from Census income categories.

Control Variables

The quality of industrial structure present in an area can potentially affect socioeconomic conditions. We control for industry quality, following economic segmentation theory, by classifying county labor force employment into core (e.g., durable manufacturing, finance, etc.), peripheral (e.g., nondurable manufacturing, retail trade, etc.), and state (e.g., health education, welfare, etc.) categories. Several other control variables are employed. These are: the percent urbanized, percent black population, the unemployment rate, the mean size of county business establishments, the percent farm to rural population, and adjacency to metropolitan areas. This latter variable is measured by a three point index which assigns a value of 0 to metropolitan counties, 1 to nonmetropolitan adjacent counties, and 2 to nonmetropolitan, nonadjacent counties.

The Effects of Farm Structure on Median Family Income

For 1970, the model explains 64 percent of the variance in income, indicating reasonable predictive accuracy. Counties with a greater extent of larger family farming have significantly higher median family income as predicted. Contrary to the hypotheses, counties with a greater extent of smaller family farming have significantly lower income. Finally, corporate farming has no significant impact. Most of the control variable have significant impacts on income, which are generally consistent with previous research. Counties with higher core and state employment, less unemployment, larger business establishments, lower farm populations, higher urbanized populations, and more closely located to metropolitan areas have higher median family income. Counties with higher black populations have significantly lower incomes, indicating that discrimination and unequal opportunities may still inhibit the advancement of blacks.

The relationships remain similar for 1980. In this model, the negative impact of corporate farming has become significant, while smaller family and larger family farming maintain their respective negative and positive relationships.

The longitudinal analysis indicates the strength of the effect that the 1970 independent variables have on the dependent variable in 1980. The explained variance of this model is 81 percent, indicating that the county's prior history with respect to median income, coupled with the effects of the independent variables largely explains the income of Southern counties in 1980. Counties with a greater extent of family farming in 1970 had significantly higher income in 1980, while counties with more small and corporate farming had no significant improvements.

Particularly in the latter case, counties experience slight declines in income over this period. The control variables have a somewhat different pattern of relationships, once the prior effects of median family income are controlled. This is expected, because median family income has a low relationship with all of these variables. Important shifts in Southern industrial structure are reflected in the model. Counties with greater peripheral employment, higher urban populations, and larger business establishments had significant reductions in median family income during the decade.

The Effects of Farm Structure on Family Povery

In 1970, counties with a greater extent of larger family farming have significantly lower poverty, while counties with a greater extent of smaller family farming have significantly more poverty. In 1980, only smaller family farming is significantly related to poverty, with generally negligible effects of corporate and larger family farming. Once the prior effects of poverty have been controlled, county farm structures have no significant impacts on future 1980 poverty.

The control variables generally indicate relationships consistent with the analysis of median family income. Unemployment and high black population are particularly strong predictors of poverty. In contrast to the literature, and to the analysis of median family income, peripheral employment significantly reduces poverty in 1970 and 1980. In the longitudinal model, however, core employment has the only significant industrial impacts.

The Effects of Farm Structure on Income Inequality

In 1970, counties with a greater extent of smaller family farming and corporate farming have significantly greater income inequality, while the opposite relationship exists for those higher on larger family farming. In 1980, the relationship for smaller family and corporate farming remain similar. Counties with a greater extent of larger family farming, however, show slight though not significantly higher income equality. Larger family farming, however, is associated with a slight reduction in income inequality over time.

The strongest predictors of income inequality are found among the control variables. the three types of industry structure tend to be negatively related to income inequality. Counties with higher unemployment and a significant black population, which may have been subjected to limited opportunities, have particularly higher income inequality.

Discussion and Conclusions

The purpose of this paper was to examine the impacts of farm structure on socioeconomic conditions, and address some of the limitiations of previous research. In contrast to most other studies, mutiple indication measures of farm structure were employed. Of the three farming patterns, larger family farming had the most positive impacts on socioeconomic conditions. Counties with a great extent of this pattern had significantly higher median family income throughout the 1970-1980 period. Such counties also had lower income inequality and poverty in 1970, though for 1980, these relationships are not as apparent. Larger family farming reflects capital intensive, tenant operated farming conducted in counties with greater farm land.

In contrast to expectations, smaller family farming tended to lower socioeconomic conditions, contributing to lower median income and higher poverty and income inequality. This farming pattern reflects a pattern of concentration of small-scale farms, which tend to be owner-operated, resident-occupied, and part-time. There was some support for the hypothesis that incorporated, hired-labor dependent farming would negatively impact socioeconomic well-being. Corporate farming tended to significantly reduce median economic and exacerbate income inequality, but it had little effect on poverty levels. As the OTA studies suggest, perhaps increased state intervention, such as welfare programs, improved labor laws and other nonfarm factors may have ameliorated other potential negative impacts.

In extending the findings to policy, the study indicates that of the three farming patterns, policies should be designed to support larger family farming in the South. While the analysis focuses on farming, nonfarm factors were examined that have more important effects on socioeconomic well-being. The pervasive and enduring inequities of race and unemployment merit the greatest concern of Southern policy-makers.

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Food and Fiber: Institution and Agency Approaches

The Economic Performance of Farmer Cooperatives

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The economic performance of farmer cooperatives is directly influenced by the general health of the agricultural economy and by public policy. Agricultural cooperatives may be considered extensions of the farm firm. Today, many farm firms are in the midst of economic crisis. What implications does this depression in agriculture have for farmer cooperatives?

The 1970's are widely recognized as "the golden decade" for U.S. agriculture. During this period, agricultural cooperatives grew fewer in number and larger in size. Farm cooperatives also experienced more public scrutiny than at any other time in history. Public opinion toward a few large, regional and national cooperatives, along with legend cases involving cooperatives allegedly performing unfair trade practices, has raised questions concerning the antitrust exemption enjoyed by these cooperative businesses.

In most recent years, the agricultural recession which started in early 1981 has placed severe constraints on the growth of agricultural cooperatives. Reduced levels of economic performance of the cooperatives has resulted in a number of problems relative to member loyalty, financial stress and market access. Given the renewed public scrutiny and lackluster performance of cooperatives, this paper has two main objectives:

To review the economic performance of farmer cooperatives operating in Louisiana from 1981-84 (plus some comparisons with cooperatives in Alabama and Mississippi).

To identify organizational and structural alternatives available to the cooperative community in facing the economic challenges which confront them.

An Overview of Economic Performance

This report involves the Fifth Farm Credit District which includes Alabama, Louisiana, and Mississippi. Audited financial statements of 200 cooperatives over a four-year period form the data base for the analysis. With respect to total sales, both Alabama and Mississippi cooperatives declined in volume between 1981 and 1984. Louisiana businesses experienced a fairly constant sales volume with the exception of 1982 total sales. The

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average assets of the cooperatives indicate that the firms were of comparable size. Assets declined dramatically for the Alabama Cooperatives in 1984 as did total sales.

Survey results indicate that acquisition or mergers by farm cooperatives across the three states were not a major activity. Therefore it can be concluded that mergers between cooperatives in the district has little influence on the average volume during the study period and growth of cooperatives occurred primarily via internal methods.

With respect to both sales and assets across firm type, marketing cooperatives within the three states tended to be larger than farm supply cooperatives for each year between 1981 and 1984. Both types experienced declining sales and assets during the period of study with the exception of marketing sales between 1983-1984.

The average growth rate of total sales and assets for agricultural cooperatives in the states of Alabama, Louisiana, and Mississippi, suggest that no state apparently has a higher growth rate than the other for sales and assets. The growth rate for the 1981-84 period on total sales is substantially higher in Louisiana whereas the asset growth rate is the highest in Alabama. Most states experienced a reduction in growth rates for sales and assets during 1983. The fall in the rate of growth for all cooperatives can be attributed to the Payment in Kind (PIK) policies of USDA. The PIK program provides an incentive for farmers not to produce or hold a percentage of their crop land out of production for an in kind payment of government stored commodities (wheat, corn, sorghum, rice and cotton). This policy as illustrated by the downturn in growth rates had a negative impact on farm supply sales and the product marketing of affected agricultural commodities.

Generally, marketing cooperatives experienced higher growth rates of sales and assets than did farm supply cooperatives. For both sales and assets, farm supply cooperatives growth rates decline in 1983 suggesting that PIK program may have had a greater impact on farm supply than marketing cooperatives.

No consistent pattern emerges for size of business (Table 1). For example, growth rates of total sales for small cooperatives were erratic when compared to rate of growth in sales for large cooperatives but nevertheless these rates exhibited no consistent pattern or relationship between size of cooperative and rate of growth.

Table 1. Growth Rate of Agricultural Cooperatives by Firm Size, 1981-1984.

Measure of Growth[1]	Small	Medium	Large
Annual Growth Rate of Sales			
1982	8.55	-10.25	-10.31
1983	-1.99	-22.1	16.28
1984	18.2	6.12	16.74
Annual Growth Rate of Total Assets			
1982	-0.41	0.98	-1.50
1983	0.93	2.02	2.99
1984	2.52	1.42	-2.93
Annual Growth Rate			
1981-1984	16.52	13.2	1.50
Total Sales			
Total Assets	2.52	3.68	-7.71

[1]*Asset turnover.*

Firm growth is a function of capital acquisition. Irwin argues that an essential element of growth via increasing productive resources is capital acquisition from either internal or external sources. One of the key elements in growth is obtaining funds that generate returns in excess of cost and thereby add to the value of the firm. *In principle, the firm is concerned with acquiring capital to finance growth at low cost with respect to liquidity and risk.* Barry assets that, in theory, a firm seeks the combination of debt (D) and equity (E), as reflected by the financial leverage ration (D/E), that minimizes its annual cost of capital.

To a large extent, such financing has not taken place in agricultural cooperatives due to the predominance of relatively small farmer cooperatives that lack access to and have not historically developed markets for equity securities comparable to that of larger profit-type corporate firms. Thus, for the most part, cooperatives obtain their funds from one of three sources: (1) The Bank for Cooperatives, (2) retained earnings, and (3) allocated patronage refunds.

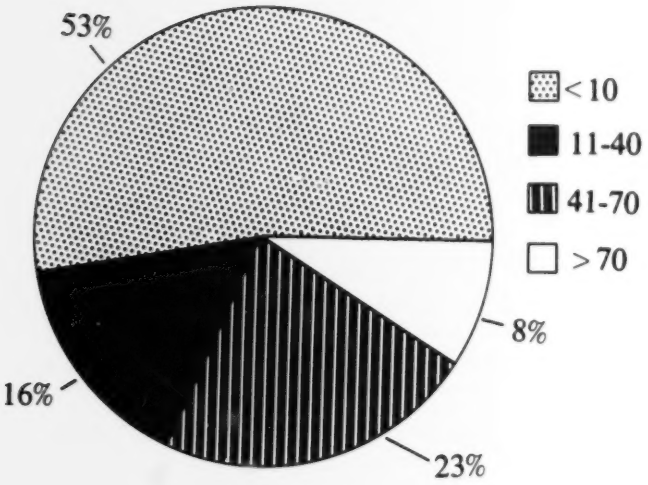
Table 2 presents the sources of borrowed funds of cooperatives in the Fifth Farm Credit district. Cooperatives in the district reflect similar trends as cooperatives in general toward the use of more borrowed funds in their capital structure. The Bank for Cooperatives is the primary source of borrowed funds as the bank accounted for 74 percent of all cooperatives borrowed funds in 1980. Other sources to include ranks second in the amount of cooperative's borrowed funds. Commerical banks represented the sources holding the smallest share of borrowed funds of cooperatives responding to the mail questionnaire.

Table 2. Sources of Borrowed Funds Fifth Farm Credit District, 1975-1980.

Source of Funds	1975		1980	
	No. of Cooperatives	Percent of Cooperatives	No. of Cooperatives	Percent of Cooperatives
Bank for Cooperatives	26	66	29	74
Commerical Banks	11	4	10	2
Other Sources	2	30	3	24
Total	39	100	42	100

The debt/asset position of cooperatives by debt/asset categories across sales, total assets, and number of cooperatives are as follows: 53 percent of the total sales are made by cooperatives with a debt/asset ratio of less than ten percent. Some 15.6 percent of the sales are with cooperatives with D/A ratios in the 11-40 percent range while 23 and 8 percent of sales are made by cooperatives in the 41-70 percent and greater 70 percent D/A ratio categories respectively.

Figure 1.
Share of Total Sales Volume
by Debt/Asset Ratio Category



The distribution of cooperative assets across debt/asset ratio categories differed considerably from the sales distribution. Only three percent of cooperative assets were owned by firms with D/A ratios of less than 10 percent. The D/A category of 41-70 percent had the largest percentage of assets (53 percent). Debt/asset ratio categories of 11-40 and greater than 70 percent had 31.2 percent and 13.1 percent of the assets respectively. The majority of the firms (67 percent) held a moderate amount of debt while 21 percent of the cooperatives had D/A ratios of greater than 70 percent (Figures 2 and 3).

Figure 2.
Relative Size of Debt/Asset Categories
by Number of Firms

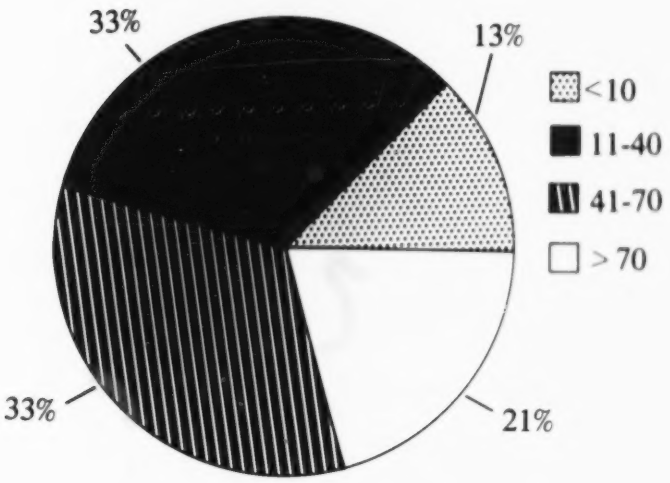
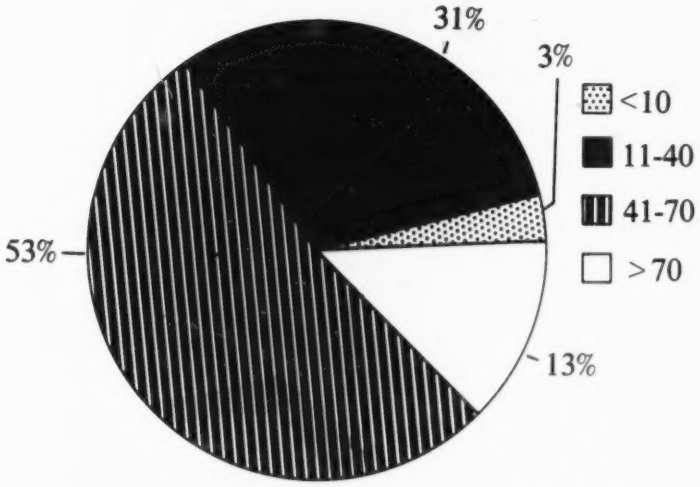


Figure 3.
Share of Total Assets
by Debt/ Asset Ration Category



Alternative Actions for Agricultural Cooperatives

Current economic conditions present a challenge. Cooperatives face problems in financial stress, market access, member loyalty and reduced growth.

Financial stress: A review of recent history suggests that U.S. cooperatives survived the growth period of the 1970's largely through the acquisition and development of large sums of debt capital. As interest rates peaked in the early 1980's, stress on management increased.

Market access: The ability of cooperatives to move up the market channel has been met with mixed success as markets (exports) beyond the farm gate became more concentrated.

Member loyalty: The distribution of farm size in the U.S. agriculture presents a bimodal farm population, large and small.

Reduced growth (sales and assets): Farm policies like (PIK) have contributed to a reduced growth in sales and assets for cooperatives.

What are the alternatives? How should cooperatives position themselves for the future? The following offer three alternatives:

Improve Management Functions and Alternative Management Strategies

One cooperative leader in remarks at last year's Graduate Institute of Cooperative Leadership at the University of Missouri said the lack of decisive management is the primary problem for cooperatives. The tri-state management school has not held a class for almost five years. Cooperatives are failing to see the need for improved management skills during this period of survival. This list of management strategy options may be appropriate for cooperatives in Alabama, Louisiana, and Mississippi:

Retrenchment and recapitalization
Technological transformation (innovation)
Market penetration and diversification
Food and supply systems integration

Reorganization

Reorganization involves both mergers, acquisitions and consolidation.

Is reorganization needed? The answer to that question depends upon the perceived mission of cooperative members, boards of directors and managements. Several similar, but different missions may exist. Decisions must be made as to whether the function of the cooperatives shall be:

To provide products and services at competitive prices;

To protect equity of those patrons who have supported the cooperative with their business;

To maintain a cooperative presence in the marketplace as an assurance of present and future market performance; and/or

To preserve the vitality of the community by continuation of the cooperative as a local business.

The combination of two poorly managed and financially weak organizations does not translate into a strong one after merger!

Strategic (Long-Range) Planning

American industry has been cited as being shortsighted in its attention to market signals, threats, and opportunities. Because of this narrow vision, errors are still committed today. Theodore Levit, in his article, "Marketing Myopia" a quarter century ago, used the U.S. auto industry as a classic example of errors in anticipating and reacting to market changes and new competition. Are cooperatives also guilty of narrow vision? Have they in fact missed the target of serving market? Levitt says the market is never wrong; only those who don't realize markets and heed markets signals commit these errors.

Strategic management describes an intentional and deliberate effort to give special attention to what are or could become critical problems or opportunities facing a business. Failure of management to heed market signals and take corrective action will continue to threaten the financial footings of our farm cooperatives.

Food and Fiber Production A Research Perspective

Gale A. Buchanan
University of Georgia

The problems associated with agriculture in the 1980's have led to many distortions and false impressions. The soaring farm debt is approaching $200 billion which is about the same as the accumulative debt owed to U.S. banks by developing nations. The value of agricultural exports has fallen dramatically. Associated with these problems has been the commodities including wheat, cotton, and tobacco. Major droughts occurred in many regions of the country, particularly in the South. The 1986 drought was the most severe seen in about half a century. All of these factors have contributed to the negative feeling that seems to permeate agriculture and related industries throughout the South, and, indeed, much of the nation today.

It is ironic that the plight of U.S. agriculture in 1986 has been characterized primarily by over-abundance of almost every life-nourishing food and fiber needed for our survival. Huge surpluses sometimes appear as an almost insurmountable problem, but for a moment, think of the alternative.

It is appropriate that the theme for this Conference is "Ushering in the 21st Century - Emphasis on the Rural South." The South can and will play a vital role in our food and fiber needs in the decades ahead. Assessing what that role will be and how it will be accomplished is the relevant question today. We must be able to accurately assess the facts if we are to maintain our food supply and retain a strong and viable U.S. agriculture, particularly in the South. In other words, we need to comprehend "the big picture" and the factors that will impact on our survival.

Overall trends in world population are cause for concern. In the forty plus years since World War II, that population has about doubled and is now over four billion people. Projections are that numbers will reach a staggering eight billion by 2020 or 2025 at the latest. These statistics illustrate the magnitude of the food and fiber needs that must be addressed in agriculture. From one perspective, these are market opportunities

for the asking, or for the taking. It is tempting to deduce from this that all of the problems in U.S. agriculture will be solved if we are patient and wait a few years until need catches up with supply. Before we raise our hopes, let's hear the rest of the story.

While the world population continues to increase, the world is rapidly becoming smaller in size in a very real sense. Improvements in transportation and communication are constantly drawing us more closely together so that our futures, and indeed, our fate, are inextricably intertwined. Traditional checks on population such as war, pestilence, disease and famine are unacceptable and hopefully will remain inoperative. As man continues to increase his expectations for a better life, he will require more food and fiber to ensure this quality of life.

The world will continue to move in a direction that ensures a basic level of subsistence available to all mankind. Of course, there will continue to be isolated problems, but by and large we will not see starvation of large groups of people.

Consequently, there will be a continual increase in demand for food and fiber as the world's population continues its upward spiral. The important and specifically relevant question is, "Who will produce what is needed for the eight billion human beings who will inhabit this planet in the year 2025?"

Facing World Competition

We live in a world in which many nations are rapidly becoming our "technological equals." Each of us can recall a time when we enjoyed effortless superiority in almost every facet of American industry as well as agriculture. We don't have to be reminded of our loss of competitiveness in industry. Automobiles and steel are highly visible industries where we once excelled but today are getting stiff competition from many parts of the world. Even some of the newer products on the market - such as video recorders - are not made in any appreciable extent in the United States. Name the product and we have formidable competition from someone in some place around the world.

Agriculture is an area where the U.S. has the best. Those days are in our past. Between 1977 and 1983, Chinese farmers doubled their wheat production. They had a ten to thirteen percent increase each year during this period. Today, China is the world's largest wheat producer. The Chinese cotton story is just as dramatic. Less than a decade ago, China imported three to five million bales of cotton annually. They will export over one million bales of cotton this year.

Numerous other examples can be cited. Bangladesh is self-sufficient in food grains, India is a net exporter of wheat, and Indonesia is now self-sufficient in rice and even considering offering some surpluses for export. Western Europe which has been a traditional customer for American grain is now essentially self-sufficient.

Other major commodities have also been affected within the last few years. From 1960 to 1985, U.S. market share of cotton dropped from about 40 percent to a little over thirty percent of the world export market. During this period U.S. exports of cotton remained steady at about six to seven million bales, but almost all of the newly developed export markets were filled by other nations. U.S. share of world wheat exports declined from almost fifty percent in 1981 to slightly over thirty percent in 1986.

Clearly, U.S. agriculture is receiving unprecedented competition for many commodities. We are holding our own in some. The percentage of U.S. production of peanuts in the world export market has increased from only three percent in the early 1960's to almost twenty-five percent in the early 1980's.

Many areas of the world still have untapped potential for further food production. South America and Australia have vast tracts of land which can be put into production when the economic climate supports such action. Argentina alone has millions of acres

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of fertile land, now planted only to grass, which could be utilized in crop production. The potential for increased productivity throughout the world stimulates the pertinent question, "What is the future for U.S. agriculture?" and more specifically, "What are the opportunities for the South?"

The South — Comparative Advantages

The question is perhaps the same one that Dr. George Washington Carver asked upon arrival at this Institution. Dr. Carver applied himself to the task of searching for cropping opportunities that took advantage of the region's soils and climate. This led to his interest in peanuts, sweet potatoes, and other crops. The rest is history.

The South is in a unique position for food and fiber production. We are blessed with bountiful resources that many other parts of the country and world can only envy. Much of the South has a gentle topography suitable for most agricultural pursuits. We have ample water from widely and usually favorably distributed rainfall as well as countless surface ponds, lakes, rivers, and underground aquifers. Though most of our soils are generally characterized by low fertility, they are highly responsive to fertilizers and soil amendments.

The South has a long growing season with mild winters which enables growth of some crops almost year round. We also have one of the most efficient logistical support systems for agriculture in the world. Transportation including highway, rail, and water are not only good, they are relatively inexpensive. Communication systems and grain handling facilities are superb, but most of all is the organization which enables all of these components to work together effectively. Rounding out our assets in the South is a highly enlightened workforce which can effectively put all of these pieces together in a food production program.

Research and Education are the Key

Most of us are already familiar with these assets. Our challenge is what can we do to fulfill our commitment to the production of food and fiber? Our research holds the key. Those of us in the Land Grant University System know that our central mission has remained unchanged over the past one hundred years. The mission for Experiment Stations in the Land Grant University is, "to conduct research necessary to generate new knowledge and technology that will ensure a productive, efficient, profitable, and successful agriculture." The mission of extension simply put is "to transfer such information to and technology to those who can and will implement it."

Few could argue that agriculture has been in a dynamic state since the beginning of the era of mechanization. Probably at no time since the beginning of that period has there been a greater amount of change. Within recent decades such changes have reached overwhelming proportions. In a society that was essentially agrarian at its beginning, we have observed the decline in percentage of our population engaged in production agriculture. Today less than three percent are directly involved in farm production. Along with these changes has been the increase in size of farming operations and in many instances a higher degree of specialization.

What these facts indicated is our ever--increasing reliance on the technological base to ensure our role in the food and fiber production of this country. To the over 12,000 scientists, 13,000 graduate students, and 7,000 technicians in the Land Grand Universities' agricultural research system, the challenge is great. But along with that challenge we have enormous opportunities.

We recognize there are things that research cannot do, especially in the short run. We aim for long-lasting, long-term benefits. No one can argue with the fact that the generation of new knowledge and technology will be crucial, indeed essential regardless of international monetary and economic situations. It is also imperative that we continue

to recognize the importance of agricultural research. In the United States alone, over 80 percent of the federal research dollar was designated for agriculture as recently as 1939. Today, that percentage is less than two percent for this nation's most vital industry.

In summary, there are unparalleled opportunities for improving U.S. agriculture through its research endeavors. As we usher in the 21st century in the South, let us apply the strength of our research system to propel the region forward in meeting its commitment to food and fiber production. The ultimate result will be a better life for each of us.

Animal and Plant Health Inspection

Saul T. Wilson, Jr. and J.H. Ford
U.S. Department of Agriculture

The Animal and Plant Health Inspection Service (APHIS) has responsibilities in three major program areas—Veterinary Service, Plant Protection and Quarantine, and Animal Damage Control. This is a brief look at how plans in each of these areas will benefit the Southern farmer.

Veterinary Services are concerned with the health of U.S. livestock and poultry. Looking to the future, we are developing a more efficient method to monitor the health of our nation's livestock and poultry and the impact of a more sophisticated and restructured agriculture. APHIS is currently engaged in the initial stages of a project called the National Animal Health Monitoring System. NAHMS is designed to measure the prevalence, trends, and economic impact of major livestock and poultry diseases throughout the United States. We hope to see—well before the 21st Century—an integrated system of microcomputers in each of the states to track animal health data from producers who are randomly selected by size and type of operation in their industries. Data will help producers make better decisions about the health of their animals to effectively manage risks. It will also aid researchers to decide where to concentrate efforts. Pharmaceutical companies will have better information for development work. Universities can design curricula that involve problem-solving and economic analysis of difficult issues. Lastly, the Federal government and the states can determine where best to direct their animal health resources. Several states, including Georgia and Tennessee, are already involved in this important project. NAHMS represents a reconceptualization of the role of our Federal veterinarians as we turn from more traditional services such as disease eradication toward providing new services as information brokers.

APHIS staff believe that the information obtained from NAHMS will ultimately help farmers in making decisions that affect animal productivity. We are also looking to a new source of help in biotechnology, or genetic engineering. The amazing achievements of genetic engineering include the pseudorabies vaccine, leaner pigs, and cows that produce 20 percent more milk—to name only a few. Exciting research is under way in agricultural applications to enchance animal health and productivity so that we can better feed and clothe the world's people. We'll soon be seeing more and better products to prevent, diagnose, and treat animal diseases and to improve animal breeds. Farmers will benefit doubly, both as producers and consumers.

Biotechnology is usually taken to mean various methods of applied genetics and molecular biology developed since scientists found the DNA molecule to be a repository of genetic information. This discovery was followed by an explosion in our understanding of how to manipulate genes. Simply put, scientists splice genes using enzymes, which are, in effect, biological scissors. This kind of gene splicing has already produced new drugs and biologics or improved existing ones. APHIS has adapted a traditional biologics program to accommodate the new task of licensing veterinary biologics that have been produced using biotechnology.

The transfer of animal germ plasm in the form of frozen embryos and semen is another technique on which producers are relying more and more to improve stock quality. As this technology develops, we foresee the time when the international exchange of germ plasm by embryos and semen will generally replace the shipment of live breeding stock because it is cheaper and more sanitary, as well as more humane. APHIS staff are particularly excited about this new technology because research has indicated that most of the animal pathogens that infect a dam or sire are not transmitted through the embryo or can be removed from the embryo simply by washing.

In conjunction with the USDA's Agricultural Research Service and the Government of Brazil, we are embarking on a study to confirm the real degree of risk associated with the importation of cattle embryos from countries where foot-and-mouth disease and bluetongue are present. Down the road, we may be able to look forward to a booming international trade in germ plasm and the ready availability of this technology to all producers.

Since we can envision a time in the not too distant future when our country will be producing more and better livestock and poultry, we must also ensure that our producers have more and better markets. APHIS is deeply involved in developing and expanding international markets for U.S. agricultural commodities through negotiations on animal health criteria with the governments of foreign countries. APHIS personnel are pursuing two new agricultural markets—the People's Republic of China and the U.S.S.R. These negotiations are difficult and lengthy because of the limited amount of communication we have had with them in recent years and the trade and policy issues involved. The U.S. has already made 11 shipments totaling 1,850 head of cattle to China. This summer we successfully negotiated protocols for exporting bovine semen and embryos to the PRC. In turn we will import swine from them.

There is now a freer exchange of agricultural health information with the U.S.S.R.—which has a staggering and virtually untapped agricultural market. Back at APHIS headquarters, Veterinary Services personnel are in the initial stages of reviewing the protocol recently proposed by the Russians for the importation of our cattle, embryos, and semen. The practice of vaccinating cattle for brucellosis is a major stumbling block. Vaccination for brucellosis will be a moot question at the turn of the century. We project that 45 states will be free of the disease by 1991 and the remaining 5 should achieve this status before the year 2000.

In addition to looking to other countries for markets, we must also look to them for cooperation in preventing the international spread of the insects and diseases that pose a threat to the plant and animal resources of this hemisphere. This is one reason why we will continue to cooperate with Tuskegee's new Center for Tropical Animal Health in its teaching, research, and outreach programs.

The APHIS concept of pest and disease control is fast becoming more and more international in scope. The figth against screwworms, which were eradicated in our own country in 1966, has been expanded into Mexico. Plans are being made to carry the program through Central America and to establish a barrier in Panama so that this scourge will never reenter the United States. Colombians are being assisted to fight

FMD so that there will be no outbreak of this dreadful disease when the Pan-American Highway is completed.

Turning to the Plant Protection and Quarantine program area of APHIS, another international program against the Mediterranean fruit fly will have special meaning for Southern citrus producers. The U.S. is cooperating with the Governments of Mexico and Guatemala to maintain a sterile fly barrier at their common border to prevent the reentry of the Medfly into North America. By the year 2000, that barrier may be much further south at the Isthmus of Panama, further insurance for citrus growers against this troublesome pest.

APHIS has also established another kind of international barrier against diseases and pests that threaten U.S. agriculture. APHIS inspectors staff every major part of entry and most of the smaller ports to examine imported agricultural shipments—both plant and animal—for the presence of exotic insects and diseases and to check passengers returning from foreign countries to see if they are carrying prohibited agricultural items.

Fortunately, technology is now helping inspectors. X-ray equipment is used to check the baggage of travelers returning from Hawaii and Puerto Rico. Tests have been made with additional X-ray systems to inspect passenger baggage coming off international flights landing in Miami and San Francisco. This technique is also being tested at international mail facilities to aid in the inspection of packages mailed to the U.S. from foreign countries.

Another form of assistance is very old-fashioned—the "Beagle Brigade." These green-jacketed passively trained Beagles sniff baggage for prohibited food items and are becoming a familiar sight to thousands of air travelers entering the United States. Dogs are trained to sit when they discover a suspect suitcase, which is then checked by an APHIS inspector. Dogs currently have an average success rate of 80 percent, and the more they work, the better they get. Dog teams operate at Los Angeles, San Francisco, and Miami Airports and at John F. Kennedy International Airport in New York.

On the plant side of APHIS, an onslaught of activity is under way for biotechnology regulatory responsibilities. Over 20 submissions from companies in the biotechnology field have been reviewed to ensure that their genetically-engineered plant organisms are not plant pests or do not become plant pests. Three of these organisms have now been field-tested—two of them in the South. Field tests of an herbicide-resistant tobacco plant in North Carolina, and of insect-resistant plants in Mississippi, have recently been completed. The next wave of field tests will be for genetically-engineered biocontrol agents to control insects and diseases without the use of pesticides. For example, an egg parasite can be used to control the Colorado potato beetle, but the parasite can exist only in warmer climates. By snipping a gene or two, scientists may be able to make the parasite more winter hardy and extend the range of its usefulness.

Biotechnology related to plant inspection may be very important to consider that scientists have predicted that all major agricultural crops will be genetically engineered within 10 years. Biotechnology will help even the poorest areas and countries to produce more food—without additional capital or equipment. Particularly important in Third World countries, the need for costly fertilizers will also be reduced. Not only will biotechnology increase yield, it will also help to improve nutritional composition.

Genetically-engineered biocontrol agents will be the wave of the future. In pest management, the highly successful cooperative boll weevil eradication program in the Southern states has led to increased cotton yield and decreased pesticide use. When the weevil has been eradicated from an area and the need for pesticides significantly decreases, an increased cotton yield has been accompanied by a resurgence of beneficial insects—the natural enemies of other crop pests.

This area-wide management concept will be used against other crop pests. Plans are under way with the Agricultural Research Service to fight two other insects of

particular importance in the South—heliothis and fall army worm. If undertaken, these will be long-term projects with much grower involvement. Both would rely on biocontrol agents and other modern pest suppression techniques such as sterile release and cultural control. The fall army worm can be controlled with a parasitic wasp. More and more pest control programs will move along these lines.

The third major program area in APHIS—Animal Damage Control—was transferred from the Department of the Interior to U.S.D.A. The overall effectiveness of the program has been improved by reducing the number of administrative layers, getting closer to agricultural producers, and ensuring that research and operations are well integrated.

Looking to the future, the ADC program is now in a position to better help the farmer. A National Animal Damage Control Advisory Committee is being established. Committee members will be appointed from various producer groups; environmental, conservation, and urban organizations; and the scientific community. The committee will make recommendations to the Secretary of Agriculture and help to set ADC policy.

In terms of the future of Southern agriculture, the ADC staff is well aware that as agriculture changes, so does the relationship to wildlife. In the South, farmers are turning increasingly to wildlife such as quail and deer as an alternative to row crops. Amazingly, one catfish farm in Mississippi harvests 400,000 pounds of fish a day. Birds that rely on these fish as a food source must now be considered as predators and taken into account in the ADC program. An increasing beaver population is also presenting a new set of problems in the South.

This is a broad overview of APHIS. We cannot predict the future with total confidence. In twenty years or even ten, we may be dealing with problems we have not yet heard of, or through some miraculous discovery we may have eliminated a pest that poses a terrible threat today. Nevertheless, leaders in APHIS look forward to working diligently to make agriculture a healthy and competitive industry.

Protection and Quarantine

The National Monitoring and Residue Analysis Laboratory (NMRAL), Plant Protection and Quarantine (PPQ), Animal and Plant Health Inspection Service (APHIS), U.S. Department of Agriculture (USDA), was established in 1970 to perform trace chemical analysis on environmental components (soil, sediment, water, vegetation, invertebrates, amphibians, reptiles, birds, small mammals, crops, and animal products) for residues of agrochemicals used in a variety of PPQ programs. During the evolution of NMRAL, it has become a laboratory of international importance, performing analyses for cooperative PPQ programs in foreign countries.

In 1985, after Animal Damage Control (ADC) became a member of APHIS, NMRAL is collaborating with ADC in the trace residue analysis of chemicals specific to animal damage control. NMRAL also serves as a contracting laboratory with other governmental agencies to perform trace chemical analyses on a variety of sample matrices for residues of agrochemicals and other environmental pollutants.

As the 21st Century approaches, NMRAL is preparing to accept new challenges such as the use of laboratory robotics as a tool for trace chemical analysis. New methods are being developed for on-site sample analysis using state-of-the-art technology with immunoassay testing devices, and determining the taxonomy of certain insect species by means of analytical chemical techniques. Also in development are methods of analysis for trace chemicals in complex matrices without any enrichment of the sample. Methodology pertaining biotechnology to determine the effectiveness of metabolites of biotechnologically designed plants are agrochemicals are under way.

In the next century, NMRAL must keep abreast with the latest development of analytical instrumentation as it relates to environmental trace analysis, drug testing, biotechnology and analytical chemistry. The knowledge of new technology for the detection of trace

chemicals in the environment for the future control of agricultural pests will greatly enhance the protection of the environment.

Implications for Economic Development: Extension's Future Role

Beth Walter Honadle
U.S. Department of Agriculture

Mayor Arrington has articulately set forth the issues for the rural South. There are indeed many challenges. What should be the role of the Extension Service relative to economic development in the twenty-first century? Two things are required. First, we need to project a vision fifteen years into the future. What will the world look like? What will be the predominant issues? Second, what will an educational organization like the Extension Service look like at that time? What kinds of expertise will it have? What technologies will it have available for performing an educational role? How will it be organized? There are many unkowns.

Let me begin by simply listing some current trends and emerging issues. First the demographics. The American population is getting older. People live longer and choose to have smaller families. Although there are real limits on longevity, medical advances will probably continue to contribute to an aging population. This certainly has implications for the types and levels of goods and services demanded by older workers, retirees and the infirm.

America continues to urbanize. The "rural revival" of the seventies is all but a memory. Most indicators point to more and more people moving from rural to urban areas for educational, employment, and cultural opportunities. This has implications for rural vitality and development.

America continues to diversify ethnically and culturally as new waves of immigrants come to this country seeking economic opportunity and freedom from political or religious oppression. This trend is given further impetus from subgroups in the population who choose to have larger numbers of children than do other subgroups, continually altering the mix of people in our society. English is not the only language in many parts of our country. Values and aspirations differ. Different communities perceive that they have different needs.

The number of households is growing at the same time as the size of households is shrinking. This trend is fueled by the number of persons choosing to remain single or to delay marriage, the high incidence of marital separations and divorce, single parents, and by people deciding to limit the number of offspring they produce. This trend can be expected to continue as more and more women enter and remain in the labor force, giving them options other than the traditional roles of homemaker and mother. These demographic trends have many implications for Extension. They have implications for program content as well as delivery.

Economic Trends

The U.S. is now in a global economy. American products compete in world markets. This affects when, where, and how we do business. Because of differences in time zones, world business transactions take place continuously. American businesspeople need to understand foreign culture, ways of doing business, languages, currencies, product advances, and comparative advantages. In addition, an international business must keep abreast of Federal policies and programs affecting international trade. They also need to know how to take advantage of state programs to promote exports.

Entrepreneurship is still another trend. We are at a point in our history in which the number of people deciding to start up businesses (one definition of an entrepreneur) is on the upswing. A recent U.S. Department of Labor survey found nearly 3 million Americans self-employed in home-based businesses. What effect do these have on income and employment in American communities? What are the educational needs of such entreprenuers?

The heyday of the sunbelt has abated with the dramatic comeback of the Northeast. There are several reasons for this, including the fall in oil prices which has had a negative impact on some sunbelt States. The South has also suffered from downturns in the textile, timber, footwear, and tobacco industries, to name a few. At the same time, the New England states have benefitted from educational advantages and have expanded in the growing high-tech and service industries. Interregional competition for business will continue.

The shift away from manufacturing industry to services also has implications for economic development. The need to make rapid adjustments in response to changing demands, opportunities, and comparative advantages implies a constant need for continuing (adult) education and training. Products are becoming more information-intensive, requiring a better-educated labor force to compete in world markets.

In rural communities, several economic trends are particularly apparent. One is the increasing importance of off-farm income and employment. This point is illustrated by the financially troubled southeastern farmer who, when asked recently what was high most valuable asset, stated "A wife with a job in town!" Related to this is the trend toward diversification in rural communities that have been dependent on farming or extractive industries. In many places this diversification has already occurred. In others, the transition is being forced on the communities as farming, mining and forestry businesses fail.

Global markets, interregional competition, and increased demand for off-farm and non-farm income opportunities are just some of the economic trends shaping our present and our future.

American values are also changing. Not only do our citizens want jobs and good incomes, they also value clean air and water, unspoiled scenery, good schools, and other amenities we often equate with "the good life." We also value such intangibles as flexibility. This affects our demand for variable work schedules. It also affects our demand for services when and where they are convenient to us as individuals. These trends also affect the way Extension conducts business in the future.

Another value that is apparent today is the importance of privatization, which is associated with freedom and the entrepreneurial spirit. Public-private partnership is not just a buzz word. It is a value that affects much of what we do. Equality of opportunity is still another value. Ensuring equal access to opportunities is a challenge for many of our institutions. The Extension Service can facilitate this process through its educational programs. Extension is already heavily involved in community economic development. The chief educational methods include individual counseling, workshops and seminars,

and the development of publications and audiovisual materials. The breadth of economic development subject areas in which Extension is currently providing educational programming includes economic impact analysis, business management, retention and expansion of existing industry, market studies, and downtown revitalization. Specialized work is under way in tourism development, value-added opportunities for economic development, and business management, just to name a few.

The future role of the Extension Service in economic development is affected by all of the trends outlined above and many more. The role is also influenced by institutional variables, available information technology, and its perceived mission.

A Look To The Future

A future perception of the Extension mission and its comparative advantage is education. The unique relationship to the land-grant system of colleges and universities positions the organization well for extending research findings to the broader public. Its comparative advantage over other institutions is further enhanced by its network of local agents in over 3,000 counties supported by a vast system of volunteers.

This mission is much more than just information dissemination. If it were only that, land-grant researchers might merely publish research and present it to the public to read and interpret. Different educational techniques and media lend themselves to different situations and educational opportunities. The more technical and specialized the educational task, the more Extension educators need to tailor the experience to individual clients. The more general the content of the educational task, the more the "broadcast media" can be used. This is where technological advances enter the picture. Before the telephone, people had to travel long distances personally or rely on the mail. As telephones became common and reliable, some mailing and personal visiting became obsolete for many types of education. Radio, television, computers, videotapes, and others are all aids to education. A salient point to remember is that Extension's primary role is as educator, not information-transferrer or answer-giver. This does not mean, however, that at certain times and for certain purposes, the Service does not disseminate information or answer questions. Quite the contrary, these roles are quite appropriate activities in pursuit of other objectives.

One key difference between education and information dissemination is that education emphasizes options available to the student. Learning how to answer questions for oneself is viewed as a goal of education. If education has taken place, one would like to observe a change in behavior. For example, interactive video can be a powerful educational tool. It has the advantages of engaging the student directly in her or his own learning. It also has the advantage of meeting the student's need for flexibility. The learner may go through the exercise as many times as necessary to make sure that the material is understood. It also caters to the student's need for flexibility. Students can access a video when and where it is convenient. However, without an educator (a person, not a machine) present, there is an added risk that the student will have learned the lesson "wrong." It is imperative that such educational systems include some self-testing components. Clearly, this technology is not appropriate for all types of educational objectives. We are in no danger of making the Extension agent obsolete any more than we are of doing away with the classroom teacher in our schools.

Audiences for Extension programs are continually changing. To meet the needs of new clienteles with complex problems, Extension must respond with eclectic responses. If entrepreneurship is a current issue requiring one-on-one counseling for businesspersons, methods must adapt. Volunteers can extend the scarce human resources. Retired executives offer one source of such expertise. Another response is a combination of resources from traditional programs. Agricultural agents can affect local economic development by helping farmers increase profitability of their operations just as home economists

do with home-based business programs. Such businesses are not just for homemakers, but the experience home economists have gained in working with homemakers can be used to help them work with many kinds of businesses that are home-based.

Extension must also engage in more "regional" approaches. The Extension Service is a nationwide network. There is no good reason why research conducted in Alabama or Nebraska should not be extended to Iowa or New York if information is appropriate. To share knowledge and experience within the nationwide extension *system*, an electronic bulletin board can facilitate networking among staff interested in economic development. This technology enables staff to perform roles more effectively.

Lastly, there is always a need for better integration between national and state Extension staffs on the one hand, and state, area and county staffs, on the other. Land-grant researchers must be responsive to real-world problems. Researchers should be involved with field staffs in setting research agendas.

Conclusion

In summary, our nation has an older population that is more diverse in an economy that is increasingly global and diversified. The Extension Service can have a large role to play in increasing jobs, income and quality of life for all Americans. This includes helping communities to do economic development planning that incorporates quality of life values into their plans. It also includes offering opportunities for individual adults in continuing education to make them more flexible and productive in a complex world. This requires both specialization and an organizational structure that encourages the integration of information from diverse specializations. More and more Extension Services will be organizing around issues, such as the current priority on Revitalizing Rural America. A major component of rural revitalization is economic development. At the same time, it encompasses roles for local government specialists, experts in farm management and family stress, and youth programming. In short, complex issues call for integrative responses rather than narrowly focused approaches.

To play increasingly demanding roles, Extension Service professionals need to avail themselves of every available technology. At the same time, there is no substitute for local agents. No machine can replace the human element when good judgment, sensitivity to cultural diversity, experience, and common sense are needed in weighing options. Extension's economic development role will be to help communities and individuals identify, understand, and choose options that will help them achieve specific objectives. Leaders of the land-grant system can certainly concur with Mayor Arrington's mandate that in the rural South, "Education must be seen as an investment in our future."

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Implementing A Policy For the Rural South

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We can take Secretary Lyng's thoughts and formulate an action plan that can be successfully implemented. PAWC workers and others must work to help keep U.S. agricultural trade in a strong position. Southern states must be competitors in the market place to assure economic growth in our nation's rural areas.

Biotechnology will be increasingly important in agriculture. New techniques now being developed in the laboratory must be converted to simple information that can be used by all farmers to help stay abreast with other businesses.

A special effort is needed to bring the so-called limited-resource farmer into the mainstream of agriculture. The Secretary pointed out one way to help this process is through diversification or producing alternative crops. We must help farmers realize that we have the soil and water resources to support diversification. We must forcefully point out to farmers that single enterprise farming fails to offer profits for many large farmers and is often destructive for those with limited resources. We need to sell year round agriculture. It is up to people like us throughout this country to make this happen.

The implementation of all provisions of the 1985 Food Security Act, better known as the 1985 Farm Bill, will help us in this process. Under this program, we will be

designing information programs to reach all farmers, including those with limited resources. As these people come to us, we will help them evaluate farming operations differently than what we have done before. We are unsure about the level of participation in all provisions of the farm bill. But we can make this policy work for all farmers to help strengthen our crumbling agricultural base.

The Secretary reported that U.S.D.A. is establishing an office for Small-Scale Agriculture. This should be a valuable source of information and provide strategies for addressing limited resource farmers. Secretary Lyng encouraged us to seek out other information and focus on non-traditional cost effective agricultural practices and farming systems.

Agricultural leaders need to make every effort to use the knowledge and management know-how available to us to bring and/or keep the business of agriculture in the economic mainstream of society. We need a plan of action with strategies to help provide opportunities and options for farmers throughout the South as well as the nation.

Issues As We Usher In The Twenty-First Century

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As a leader of free nations, we have within our grasp technological modalities that will shape the future of the world and determine the destiny of our citizens. *But it is outrageous that we have not utilized to the maximum our historically greatest assets—our agricultural resources.*

What human issues need to be resolved when we are in a time of the greatest technological renaissance ever recorded? Historically, housing, food, and safety, basic human needs, were guaranteed to be basic human rights assured by birthright. However, we see daily and hourly, graphic displays to the contrary in communities—both our rural and metropolitan communities. They not only tell us statistically, but show us that all is not well at this time in our country. In the 201 counties of the Tennessee Valley seven-state region, 22 percent of the population now live below the poverty level!

For some segments of our population, especially in the agricultural community, it appears that time is running out. For others, the time is not known. What time is it? What or whose time zone are they operating on? Who is keeping the time? Who is holding the clock? Can we even speak of ushering in the 21st Century without considering the dimensions of time - the impact of our past on our future? In comparison with 1929 when the TVA region per capita income was 45.1 percent of the U. S. level, it is forecast that by the year 2000 the per capita income will only be 82.9 percent. In less than three-quarters of a century this shows a gain of only 41 percent.

Human basic needs are not guaranteed to our citizens for many reasons. Poverty, homelessness, unemployment, and illiteracy are being exacerbated by extended longevity, scientific and technological advancements in medicine, industry and education. This certainly is inconsistent and paradoxical. One would ask, "If we have so much, why

are there so many problems?" This should be the greatest time in the history of the world where the agricultural resources of our country could be maximized to assist in these problems.

Until we address with massive commitment to guaranteeing basic human needs that when deprived - create a springboard to human social problems, we will be unable to go into the 21st Century with hope, pride, or confidence.

The agricultural pioneers who created a frontier blueprint on which our country shaped its future cannot be ignored. The value system, belief and commitment to the meeting of basic human needs must be acknowledged and new partnerships and coalitions must be encouraged, formed, and supported. With creative networking and utilization of technical assistance resources from both public and private sectors, combined with the hands-on, grass-roots human resource expertise, a positive outlook can be forecast. The technological and scientific communities have common goals with the agricultural community—to elevate the quality of life for all citizens.

As a Citizen Advocate, I challenge participants in this PAWC to join me as advocates in the building of coalitions of support to return to all citizens their right to health, safety, and housing and food. If we each offer our expertise in this advocacy commitment, we will indeed enter the 21st Century with a positive synergy that will assure a livable environment.

Critical Needs for the Twenty-First Century

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In looking toward the twenty-first century, agricultural workers in the South must be concerned not only with the socio-economic conditions of farmers but with the conditions of the nonmetropolitan population as a whole. Special emphasis may need to be placed on blacks because they operate a disproportionate share of the small farms in the South with a relatively high rate of farm loss. Traditional public policies have left a substantial number of blacks with incomes below the poverty level. Approximately 15 percent of persons in nonmetropolitan counties were below this level in 1979. Innovative programs and policies are needed to address the chronically low incomes of many blacks in these nonmetropolitan areas.

Agricultural Development

Black-operated farms in the South numbered 31,121 in 1982, a decline of 11.6 percent from 1978. By comparison, the total number of farms in the South decreased by less than one percent between 1978 and 1982. The more rapid decline of black-operated farms reflects many factors including the inability to increase farm size, lack of diversity in farm operation, insufficient operating capital and credit, and various demographic factors such as the age distribution of black farmers. Fewer farms will be needed in the twenty-first century because of advances in agricultural biotechnology. Agricultural

workers can aid in the adjustment with strategies to improve the economic conditions of small, limited resource farmers and by assisting displaced farmers.

Will traditional farm policy help small farmers? Numerous studies have shown that the benefits from government commodity programs have been unequally distributed. They tend to be concentrated among the operators of large farm enterprises. Many farmers do not receive any benefits from the commodity programs because they do not grow specific crops. Data from USDA's Farm Costs and Returns Surveys indicate that two-thirds of the U.S. farmers did not receive government payments from 1985 farm programs. Many small farmers fit into this category. Because current farm policy is not likely to improve the income of small (that is, black) farmers, other alternatives must be considered. Before discussing some development strategies, the unique characteristics of black-operated farms in the South must be noted.

Southern black farmers tend to be older, operate smaller farms, and have lower annual agricultural sales relative to all farmers in the South. Only 7.5 percent were younger than 35 years. Among all farmers in the South, 45 percent were over 54 years and 13 percent were under 35 years. Approximately half of black farmers had 49 acres or less and a third had 50 to 139 acres. Farm size averaged 99 acres compared with 328 acres for all farms in the South. The dollar value of agricultural products sold was relatively small for the majority of black farmers.

Nearly half of the small farmers had sales under $2,500 in 1982 and 32.4 percent had sales ranging from $2,500 to $9,999. While a third of all southern farms fall into the latter sales category, only a third had sales less than $2,500. A large proportion of black-operated farms were classified as livestock enterprises, followed by cash grain and tobacco enterprises. Compared to all farms in the South, black-operated farms were somewhat more likely to produce cash grain. Like other farmers, most black southern farmers were full owners of the farming operations. Only 11.3 percent were classified as tenants, about the same proportion as for all U.S. farmers. About 54 percent had a primary occupation other than farming and 36 percent spent 200 days or more working off the farm. About the same proportion of all farmers in the South reported a primary occupation other than farming but a larger proportion, worked at least 200 days off the farm.

The concept of "targeting" farm programs has recently received much attention from policymakers and agricultural economists. Under some versions of this proposal, programs would be directed towards specified subsectors of lthe farm population such as low-income or limited resource farmers. Given the characteristics of black farmers in the South, this approach will not substantially raise their income if the same policy tools (for example, target prices, deficiency payments, nonrecourse loans) are in place.

The majority of southern black farmers do not produce crops that are eligible for price support or that would entitle them to income support. For example, the Commodity Credit Corporation makes nonrecourse loans for wheat, feed grains, soybeans, cotton, sugar, wool, tobacco, and honey. Congress authorized target prices only for cotton, wheat, corn, sorghum, and oats. In 1982, 56.4 percent of the black farmers in the South either produced commodities that were not eligible for nonrecourse loans, target prices, or deficiency payments.

Access to credit is critical to the survival of black-operated farms. More cost effective production practices including use of organic farming techniques, better financial management, and better marketing strategies are also essential. Diversification to take advantage of consumer demand for fresh fruits and vegetables, herbs, and nontraditional foods such as catfish is another strategy and offers new opportunities. Adoption of biotechnology could also be instrumental to the survival of black-operated farms. Agricultural workers can play an important role in educating and providing technical assistance to farmers in these activities.

The Civil Rights Commission has warned that the United States was losing black farmers at an alarming rate. Efforts need to be taken immediately to replace the older black farmers if there is to be a viable black farm population in the twenty-first century. Encouraging young blacks to become farm operators is a difficult challenge in today's agricultural climate.

Rural Development

The economic well-being of many black farmers depends on the economic conditions in their communities since 60 percent work off the farm. Economic conditions are also critical for those who leave farming. However, black farmers are concentrated in slowly growing southern rural counties that have not fully benefited from recent national economic growth. Nonfarm employment opportunites are generally limited in these counties. A recent report by the Southern Growth Policies Board forecasts that the South will gain nine million new jobs by the year 2000 but indicates that these jobs will not help workers employed in row-crop agriculture and low-skill manufacturing. A USDA study suggests that retired workers, the disabled, female-headed households with young children present, and persons with little education and few job skills will not benefit directly from local economic growth. Many nonmetropolitan blacks fit into at least one of these categories.

Some type of rural development is needed to aid farmers who work off the farm, displaced farmers, and other nonmetropolitan residents. The Policies Board report emphasized that the South cannot continue to base its economy on industries leaving the North for cheaper labor and taxes. Such industries are also attracted to less developed foreign countries where the labor is even cheaper. The South will have to develop more of its own businesses. These businesses will need skilled, educated workers.

The rural South must also improve the quality of its education at all levels, from kindergartens through post-secondary institutions. Pre-school education needs to be encouraged, especially for disadvantaged children. Further, emphasis needs to be placed on decreasing the drop out rate of high school students. Recent data show that a third of the ninth-grade students in the South do not graduate from high school.

Community and technical colleges could be the key to providing higher education and trainiing to the nonmetropolitan population. The United States is becoming highly sophisticated and technical as we move toward the twenty-first century. It is vital that educational institutions equip students with the appropriate technical and analytical skills. These skills need to be an integral part of a flexible, well-rounded education.

Conclusions

There are critical needs in the rural South. Areas that deserve particular attention if life quality is to be improved include nutrition and health, housing, transportation, day care, and welfare reform. All are needed to provide adequate assistance to persons who are not in the work force, the elderly, disabled, women with young children. Traditionally, the 1890 Colleges and Tuskegee University have been at the forefront of agriculture and rural development in the South. These institutions are to be commended for their role.

The current federal budget deficit could affect the Federal government's role in rural development. Government may reduce spending for agriculture and rural development during the remainder of this decade and the 1990's. The continued leadership of the 1890 Colleges and Tuskegee University and that of professional agricultural workers is vital to improving small-scale agriculture, economic development, and human resource development in the rural South as we approach the twenty-first century.

Some Implications of Food and Fiber Production

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The recent decline in oil and major crop prices is causing a shift in food and fiber production in Oklahoma, as well as other southern states. Price declines, combined with the sharp decline in crude oil prices and reduced grain exports, have forced many farmers in the region to consider other income sources. More are inquiring about alternative crop enterprises in an effort to diversify and reduce farm losses.

Traditionally, American farmers were thought to have plenty of land to produce crops both for the U.S. and world population. As farm operations became almost completely mechanized, more time and acreage was devoted to major crop production. Minor crops such as vegetables and fruit were all but forgotten. As world population increases, the number of hungry people is also escalating. Many of these hungry are located in U.S. cities and even on family farms.

As commodity prices decreased and interest payments rose, the middle-sized farmer was often caught in a financial squeeze. Many have been forced to leave the farm, causing more national unemployment problems. The small and part-time farmer has also encountered increasing financial pressure, but many have off-farm employment to subsidize their farm operations.

Because of factors mentioned, there is an increased interest in producing a wider variety of crops to spread the risks of farming. Unfortunately, many of these alternate crops are costly to develop and are very labor intensive. Marketing crops such as fruit and vegetables can be risky ventures. Outlets for new crop enterprises need to be developed before the crop is planted. Most of these crops are perishable and must be marketed soon after they reach maturity. Direct marketing systems such as pick-your-own are well suited for fruit and vegetables, but are most successful near high population areas. There is also an increased interest in cooperative ventures for processing fruit and vegetables. Processors are usually centrally located in a production area and are responsible for sorting, packaging, storing, and transporting the produce as it is harvested.

The demand for fruit and vegetables and their by-products is increasing. As world population climbs rapidly, the diet of American people appears to be changing. Most fast-food as well as other restaurants are promoting salad bars which feature fruits and vegetables. Such businesses are usually willing to buy locally grown produce as it is fresher and transportation costs are reduced. Farm markets are developing in many cities and support for them is increasing. As trade develops at these markets, other retail merchants find their trade also increases.

As more farmers diversify operations, technologies must be available for production problems. Obviously, equipment must be developed on a smaller scale for the smaller plots of row-type crops. If larger acreages are produced, tillage and harvesting equipment must be used to minimize labor costs. Schedules for pest control must be developed and followed closely to produce high quality fruit and vegetables. If the produce is not sold quickly, storage facilities must be available. In many areas, supplemental water is required during the growing season. Many farmers are developing drip irrigation systems to save on water usage and pumping costs. Nutrients can also be added to the soil with these systems.

There is a definite need throughout the South for an increase in research appropriate for small farmers cropping systems. More information is needed concerning costs, labor,

production, and management of these systems. Colleges and universities should develop more programs to train farmers on cultural practices required for labor intensive crops. As these programs are developed and marketing remains favorable, food production in the U.S. will remain competitive on the world market and farmers will again receive fair returns for their investments, labor and products.

The farmer cooperatives and agricultural research have played key roles in food and fiber production in the South. Farmer cooperatives of Alabama, Louisiana and Mississippi are following the same trends as the agriculture of the region. Their total sales have declined rapidly in the last three years as a result of the decline of agriculture prices. This trend will probably continue in the future. Improved management, consolidation, and careful, long-range planning will slow and perhaps reverse the declining trends in these businesses.

The farmers in the Southern states have production resources such as abundant water supply, good transportation, communication, education and an available work force. They should take advantage of all resources to ensure a productive agriculture in the area. Educational institutions in the area must conduct research necessary to generate technology which can be useful for the agricultural community. Extension Services should then transfer this new information and technology to those who can and will implement it. Unfortunately, the U.S. does not hold the edge in many areas of technology today. Policies in crop subsidies and threats of international competitors mean that foreign producers have gained an advantage in world markets where U.S. products were once dominant.

American agriculture is presently concerned with increasing surpluses on the world market which are closing outlets for our products. Government agencies and universities must concern themselves with the immediate problems of surpluses and lack of markets. Agricultural production must try to fit realistic market needs or face surpluses for some time. Perhaps more research should be targeted at marketing on a global as well as a national basis. Local markets should be developed as much as possible to support local agricultural production.

World population continues to escalate rapidly. Production should not be reduced drastically as world population will probably double in the next 50 years. That offers long-term hope for excess production. With the depletion of non-renewable resources, research should accelerate in areas of nitrogen producing crops and grains that are drought tolerant. With its favorable soils, climate, water supply, labor force and other advantages, the Southern region of the U.S. should be ready to supply the world's needs of agricultural products when this temporary period of surpluses is over.

Changing Employment Pattern And The Quality Of Life In Rural And Urban Sectors

Perception of Blacks and Whites Toward Agriculture and Future Farming

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Black participation in U.S. production agriculture has declined in recent years. In 1920, a total of 926,000 black farms accounted for 14 percent of all U.S. farms. The 33,000 black farms reported in 1982 represented only 1.5 percent of the national total. Historically, blacks were displaced from farming in great numbers with the advent of machinery that encouraged large farms and eliminated the need for laborers and small-scale tenant farmers, both black and white. One study estimates that 79 percent of the reduction in hand picking of cotton was due to increased nonfarm wages, the "pull effect"; the remaining 21 percent was attributed to the decreased cost of machine harvesting, "the push effect". Blacks also faced barriers in terms of discriminatory attitudes that often blocked advancement in agriculture.

Today only 2 percent of the U.S. farm population is black. Most farms operated by blacks are small, with older operators, and are located in the South. The U.S. black population has relatively fewer ties or experience with food production activities and thus may be expected to have a characteristic pattern of attitudes and expectations for farmers and food policy.

This paper compares black and white attitudes toward selected aspects of the U.S. food system. Attitudes toward farms and farmers, the role of government in agriculture, and perceptions of outputs from the food system are examined. Based on systematic patterns of differences in the survey data, implications for food policy are examined in light of possible impacts on and special concerns of black Americans.

Theoretical Framework

Black Ties to American Agriculture

As the single American ethnic group making an involuntary migration to the U.S.A., black ambivalence toward agricultural pursuits may be understandable. Slavery and a corresponding stigma attached to agriculture as an undesirable way of life may carry over to contemporary life and attitudes in multiple ways.

Studies of attitudes and occupational aspirations have shown that black college students clearly avoid careers in production agriculture. Minority students were particularly less likely to pursue a career in farming even though proportionately more black students in the study possessed the background characteristics traditionally associated with farming. For many black agricultural students with childhood experiences on small farms and first-hand knowledge of the hardships and uncertainty of farm life, farming is not viewed a desirable career choice. The usual agents of socialization to farming operate to shift black youth toward nonfarm careers within the context of production agriculture.

Current trends in production agriculture tend to discourage all but the most committed youth in clear line of succession to a low-debt farm operation. Excess supplies and low commodity prices have made government payments a major source of farm income. While land prices have fallen, lenders have become increasingly conservative, and entry into production agriculture remains a complex affair. Many occupational opportunities clearly remain in production agriculture, yet the prospects seem remote for urban youth with little contact or experience with farming and who possess career values that may not include independent risk-taking and manual labor in a rural environment.

Sources of Attitudes Toward Farming and Agriculture

Two major sources or antecedents of attitudes toward farming and agriculture include previous contact and experience with farming as well as the complex of sentiments and beliefs known as agrarianism. Such a belief underscores the primacy of agriculture as an occupational pursuit, staking a special place for agriculture as a fundamental national resource.

Thomas Jefferson is perhaps the best known exponent of agrarian values although such sentiments can be traced to Aristotle and Cicero. Agrarian values fueled social movements among farmers in response to economic conditions and perceived exploitation by railroads and other institutions. These values became a regional theme of life in the South and a basis for hardy individualism in the West. Despite wide internal variations, agrarianism emphasized an appeal for unity among all farmers.

Recent research has shown strong support for agrarian principles among farmers and rural residents. Agrarianism can be a source of political division in American society when it serves as a rationale for protecting the economic standing of the farmer or justifying special treatment for production agriculture. Opponents point out that farmers are a distinct and wealthy minority and present day claims for special treatment or subsidy are a legacy of the past.

It is a precept of agricultural fundamentalism that there is something special about the farm way of life and that the general good of the nation can be served by keeping the agricultural sector free and strong. These sentiments can be evoked and used to the advantage of the agricultural sector in gaining support for farm policies. Commercial agriculture has successfully used "protection of the family farm" as a symbolic issue in shaping farm policy. Similarly, small farm advocates seem to emphasize the moral superiority of the yeoman farmer, yet is it not clear how these sentiments appeal to black Americans or whether they hold the same power to evoke support for farm policies.

Public Attitudes and Agricultural Policy

Few studies have systematically explored attitudes about agricultural and farm policy concerns among the general public. Many of the issues are not well-understood by policy analysts, yet alone perceived by the general public. Research results leave the clear impression that the public supports farmers and expects the government to save the family farm and save money in the process. The extent to which these broad feelings are shared by blacks and white remains to be established.

In recent years, the media has focused extensively on the plight of the farmer in terms of drought, debt, and foreclosure. Proximity to such difficulties and personal knowledge of the actors involved may shape a differential view of the current rural and agricultural crisis. Since most blacks reside in metropolitan areas, consumer concerns may dominate their perspective on farming.

Sentiment toward farming and agriculture also may stem from environmental values about the landscape and countryside. Farming is a seeming constancy or touchstone in a complex, often hostile and increasingly urban world. Many individuals may find dramatic change in the farm sector as a threatening prospect, detrimental to their quality of life.

Finally, the nation's agricultural policy has been a "cheap food" approach to agriculture that by-and-large favors consumers over farmers. By encouraging production and subsidizing producers through program and tax benefits, food prices have been kept low. This nation spends a lower proportion of per-capita income on food than any other. Blacks may be more sensitive to inefficiencies and inequities in farm programs yet have greater fears for the consumer impacts of a free market, independently profitable agriculture.

Study Data and Methods

Data for this study were obtained from a nationwide sample of U.S. households contacted in a 1986 mail survey. As a contribution to a USDA—CSRS research project, the questionnaire was designed to assess beliefs about various issues related to the financial situation of farm operators, the place of farming in society, and the role of government is protecting, regulating, and supporting agriculture. Inquiries reflected the ongoing dialogue about farming, farm subsidies and the relationship of agriculture to society.

The sample was randomly drawn from a computer-merged listing of residential telephone subscribers and automobile owners maintained by a national marketing firm. The sample frame should be representative of nearly all households in the nation, although households which do not possess a telephone nor register an automobile would be excluded.

The questionnaire and an explanation of the purpose and intent of the study was mailed to each household in the sample. One week later a reminder postcard was sent. Two weeks later a second questionnaire was mailed. The following week another reminder postcard was mailed. A third questionnaire was sent a month later, again followed by a reminder postcard.

Questionnaires were mailed to 9,250 households. Bad addresses, deceased respondents, refusals, and completed questionnaires accounted for 54 percent of the original sample. Completed, usable questionnaires were available for 3,239 respondents, a 46 percent completion rate.

The data were weighted to allow national analysis based on a sample design that featured oversampling in selected states. Sample weights also were computed to counter differential response by age, sex, race, education, and income. The weighting procedures retain the original sample size while improving the representativeness of the sample. High school graduates are somewhat underrepresented in the weighted data although the sample resembles population characteristics fairly closely on other dimensions. The

sample somewhat overrepresents large city and farm residents and under-represents small town and rural residents.

Measurement and Analysis of Data

Beliefs about farmers, the future of farming, and the role of government in the agricultural sector were assessed with a fixed format response framework "strongly agree" to "strongly disagree" to determine direction and intensity of sentiment. In analysis, responses were collapsed into three categories, "agree," "undecided," and "disagree." Sets of survey items were examined in terms of patterns of agreement or disagreement. Respondents were also asked to provide selected background characteristics as well as the nature of their previous experience with farming and agriculture.

The analysis examines the patterns of response among clusters of thematically similar items. The seven groups of questionnaire items were identified through a preliminary principal component factor analysis as well as the content of each statement. Respondents included black (N=171) and white (N=2,814). A chi-squre test is reported to indicate the magnitude of the differences. Other minorities and those not reporting on the race item were excluded from analysis.

Prospects For The Rural South Hard Time and Hopes

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Epilogue, Ford Foundation Report
On Rural Economic Development, May 1986.

The situation facing the rural South is serious. Many rural communities are now mired in economic stagnation and the trends for the future are almost uniformly negative. Moreover, the decline in rural areas is not going on in isolation. Cities in the South—like Northern cities a generation ago—are becoming magnets for those displaced from the country. Thus, Southern states are threatened with both decaying rural and inner-city communities, creating a massive financial drain on the region's resources.

Finally, the consequences of the current situation transcend economic considerations. The trend also threatens abstract, eternal values that have cemented the South's identity and made it worth preserving. Much has been written and said in recent years concerning America's reverence for tradition and family. In the South, these ideals are rural. Even those of us a generation or two removed from the farm trace our love of the environment, our concern for thrift, our feelings for fellowmen, our awe of nature, and our sense of place to the routines of rural community life and our connections to the land. States in the South must tend to our roots, or in the end, risk our values.

The Hard Times

We live in two Souths. One is an urban-South that is booming, prospering, creating new jobs and opportunities. We also live in a rural South that is on the decline; losing jobs, people, and confidence. Since 1981, 19 percent of North Carolina's farmers have left production agriculture. These losses are the highest in the Southeast, according to the North Carolina Crop and Livestock Reporting Service. Nationally, the number of farmers fell by only 9 percent according to a 1986 study by Hancock.

But farm economists say farm problems have caused few ripples in North Carolina's total economy, which is urbanized and diversified enough to absorb one of the nation's highest losses of farmers. But in the state's rural sector, the impact of an agricultural recession is unevenly felt. Historically, many of the state's Western and Piedmont farmers have divided their working hours between their land and an array of off-farm jobs. In hard times, farmers in these areas can supplement dwindling agricultural income with, or abandon farming for, jobs in nearby urban areas.

But for Eastern North Carolina, the state's major agricultural region, there is little urban or industrial development to provide an economic safety net. This area, east of the capitol at Raleigh, has the state's highest concentration of row crop farms. And, traditional row crop agriculture—corn, soybeans, cotton, and wheat—has been hit the hardest by the agricultural recession.

East of Interstate 95, where 13 of North Carolina's 15 counties are most dependent on agriculture, farmers do not suffer alone. North Carolina Department of Revenue records show that while gross retail sales have increased 43 percent statewide since 1981, sales in those 15 counties have increased by only 11 percent. In the last six years, six counties have seen overall retail sales declines of as much as 21 percent.

Clemson University economist Hal M. Harris predicts North Carolina farm losses would probably reach $290 million for 1986. The worst drought in a century coupled with falling commodity prices and increased production costs will produce this result. Prof. Harris said the losses would place even more pressure on rural eastern communities already suffering heavily from three or four years of agricultural recession. For every dollar lost in farm income, about two dollars are lost from the general economy. That loss will be very unequally felt, Harris notes. "In farm communities, that's where it's really going to be tough. Many Eastern Carolina towns are truly farm communities. There is no industry outside of agriculture."

Despite its current problems, agriculture will continue to be a mainstay of the economy in North Carolina, as well as in the South in general. But the farmers who till the land, the crops they plant, and how they grow these products will change. The amount of land devoted to farming will probably remain steady, but the total number of farms in North Carolina, which dropped by 19 percent during the past five years, should drop a further 30 percent over the next 10, state agricultural officials predict. By 1995, about 50,000 farms will remain, compared with 73,000 now.

Part-time farming will continue to be a growing trend in North Carolina and the South. In North Carolina, the percentage of farm operators who work off the farm 100 or more days a year increased from 25 percent in 1954 to 42 percent in 1982. Farms will tend to become larger in Eastern North Carolina, where outside employment opportunities are fewer. Part-time operations will become most plentiful in the Piedmont and mountains, where more nearby jobs are available. "A person used to consider himself a farmer and a part-time something else," a Wake County Extension chairman commented, "Now the situation has reversed. Now they consider themselves a carpenter and part-time farmer."

After two decades of reasonable, solid growth, many rural communities in the South are now finding themselves, like the communities in Eastern North Carolina, in serious

trouble. They are faced with a simultaneous decline in agriculture and manufacturing despite the fact that the rate of population and employment growth has greatly exceeded the national average over the past decade.

Changes in the Regional Economy

While adverse trends have been mounting for several years, it is only recently that the economic problems of the rural South—as distinct from those of the region of the nation as a whole—have commanded serious attention. Initially, news of farm foreclosures, textile and other plant closings in the South were viewed largely in the context of the national and worldwide recession of the early 1980's. Only when many rural areas failed to join in the national economic recovery was it recognized that the problems were not temporary effects of the business cycle. Instead, it has become increasingly clear that major structural changes are at work in the rural southern economy, changes which are only intermittently visible, but which, taken together, promise profound and lasting consequences for all the South.

The metamorphosis of the South during this century from a stagnating, agriculturally dependent, people-exporting region to an industrial and demographic magnet has been remarkable. In 1900, two-thirds of the South's labor force was employed in agriculture and mining. By 1985 these industries accounted for only 1 in 20 southern workers. At the same time, service sector and construction jobs, which contributed less than a quarter of the region's employment at the turn of the century, grew to 77 percent by 1985; while manufacturing employment expanded from 12 to 18 percent of the regional total.

As the South's economy changed, it attracted an increasing share of American business and industry. This attractiveness is due in part to its improved accessibility to national and international markets, through new highway systems and expanding airline hubs. The greater accessibility, combined with a benign climate, a modern infrastructure, right-to-work laws, favorable wage rates, low taxes and land costs, upgraded schools, and pro-growth community attitudes have boosted the region's urban investment potential.

From 1910 to 1955 millions of people moved out of the South. Most of them poor whites and blacks headed North to jobs in heavy industry, and away from the South's distressed farms and struggling local economics. During the past three decades however, the rapidly expanding economy of the South began to attract immigrants. What accounts for the South's dramatic turnaround from a net exporter of people to a powerful human magnet? In addition to the investment advantages previously noted, a variety of interrelated factors have played a role. These include 1) a growing, footloose, sun-seeking retirement population that has private pensions, social security payments and other sources of income not tied to a place of work, 2) the spread of central air-conditioning that allows more comfortable summer living and working conditions, 3) lifestyles that are more oriented to recreation and year-round outdoor activities, 4) changing racial attitudes that permit blacks and Hispanics new opportunities to participate in the economic and social institutions of the South, 5) a more progressive political orientation and an increasingly cosmopolitan atmosphere in the metropolitan South, 6) generally lower living and amenity costs, and 7) a dramatic improvement in the quality and quantity of the region's consumer services, financed by rising personal income levels.

It is not easy to grasp the changing nature of the contemporary Southern economy. Communities in the South are becoming increasingly heterogeneous, and difficult to characterize in general terms. As a result, perceptions of the South vary widely. We are all inforced by whatever type of community, rural or urban, we know best.

Hilton Head, South Carolina and Noxubee County, Mississippi for instance, are both rural communities sharing much the same cultural heritage, yet their economic prospects are obviously quite different. Hilton Head booms with development, fueled by its tourist industry and retirement communities. Noxubee County, on the other hand, stagnates.

Even within such counties as Tift in Georgia, Campbell in Tennessee, or Greenwood in South Carolina, the economic picture looks vastly different in communities only twenty miles apart. As one small town dies, another thrives nearby.

We hear danger signals and also hear good news. The traditional outmigration to the cities of the North has been reversed. Towns in Kentucky and Tennessee have been chosen as sites for giant automobile factories; and there are thriving rural communities throughout the South, where local leadership continues to bring people a share of the American dream.

Overall, the trends are clear. For a majority of counties in the rural South, especially those far removed from urban areas and without access to an Interstate highway — the economic forecast is dark and growing darker. Consider the following statistics from *Shadows in the Sunbelt*, a report for the Ford Foundation in May, 1986:

1) More than 95,000 textile jobs and 14,000 jobs in the apparel industry have been lost in the South since 1980, the vast majority from predominantly rural areas.

2) New jobs in the South are being added nearly twice as fast in metropolitan as in rural areas. In Georgia, three-fourths of all new jobs since 1981 have been located around Atlanta. Manufacturing employment in Atlanta grew 17 percent over the past five years, while declining by 3.3 percent elsewhere in the state.

3) Agricultural income and assets have declined drastically in the Southeast during the current farm crisis. In North Carolina alone, 13,000 farms went out of business from 1980-1985, a decline of 14 percent. Land values and other agricultural assets in the state have declined by at least $2 billion since 1983.

4) At the same time that the rural South has endured these hardships, federal support for economic development has been sharply reduced. Many programs now face elimination. Budget cuts enacted during the Reagan administration have cost the state and local governments in the South a cumulative total of $20 billion since 1980. Many of these funds were critical to rural development efforts — providing jobs, technical support, infrastructural development, and business start-up capital for rural communities. Under the recently enacted Gramm-Rudman-Hollings legislation, such programs will be cut another 20 percent by 1987.

5) Despite the South's fantastic economic development in the past 50 years, all of the above-listed economic shocks are occurring in what is still the nation's poorest region. Per capita income in the rural South is still less than three-quarters of the national average. Meanwhile, unemployment rates in the rural South are now 37 percent above the national average.

By contrast, the urban South appears to be developing at a faster and more steady pace than other regions of the country, even during periods of recession. Economists have argued that areas whose employment bases are dominated by firms in cyclically sensitive industries (such as automobile parts, machine tools, textiles and steel) will experience more severe downturns in local employment during recessions than those places where the employment mix is predominantly service sector industries. Others argue that factors such as local business climate, federal fiscal involvement, and local ecological conditions (density, transportation, access, etc.) contribute substantially to an area's ability to attract jobs during recession, as well as during national growth periods.

Using a technique which has come to be known as "shift-share" analysis, regional scientists (Dunn, 1960, 1980; Perloff et. al. 1960; Estaban-Marquillas, 1977) have shown that between any two points in time, change in local, state or regional employment can be decomposed into 1) that which is due to overall national employment growth, 2) that which is due to the area's industrial mix, 3) that which is due to factors unique to the locality, state, or region. The final term has been labeled the "shift component" (or competitive effect), and is that residual in an area's employment change which

remains after the effects of national employment change and industrial composition have been removed.

Employment pattern changes varied for the South via the shift-share analysis, both for time period and location. Thus, the South lost 95,000 jobs during the 1974-76 recession, but gained 612,000 jobs during the 1980-82 recession. During the latter recession small job declines in non-metropolitan counties were more than offset by large employment increases in metropolitan counties. In addition, during the national economic growth period of 1976-80, the South gained nearly 4 million jobs.

Analysis of the industrial component for the South concluded that the industrial mix of the region was not conducive to overall employment growth. However, the more urbanized Southern counties did have an industrial mix that contributed to employment growth during both business cycle downturns and upswings. The robust industrial mix of its larger urbanized areas however did not compensate for the disadvantaged industrial structures of its non-metropolitan counties.

Competitive patterns of growth are the result of many factors, including wage rates, taxes, union strength, congestion, federal investment, business regulation, physical climate, and local attitudes toward growth. As competitive factors change, some regions fall behind while others surge ahead. The South's competitive edge has increased sharply since 1978. During the 1980-82 recession, all types of counties — from the most rural to the most urbanized — gained more jobs than could be accounted for by either national growth trends or the industrial structure of counties. Smaller metropolitan central-city counties showed particularly strong competitive effects during the 1980-82 recession, as did the central-city and suburban counties in the region's largest metropolitan areas.

In summary, a shift-share analysis of county level employment trends shows that the dramatic expansion of jobs in the South between 1974 and 1982 was due exclusively to its strong competitive factors. These more than compensated for the poor industrial mix of the non-metropolitan counties. In the South, the dramatic urban-rural split looms important.

Throughout the post-war era, the success of the Southern economy has been its ability to attract new manufacturing plants. Though many of the poorest and most remote counties were left behind, particularly those with high rates of poverty and large minority populations, hundreds of manufacturing concerns did locate in the region. In the late 1970's however, the influx of new manufacturing plants began to slow, and many of the existing plants began to experience serious financial problems — caught in a complex web of changing economic circumstances. In short, for the past several years the trends in manufacturing have become increasingly unfavorable to rural Southern communities.

Shifts in Manufacturing Industries

The manufacturing economy of the rural South is almost exclusively tied to traditional industries. Unfortunately, the market share for domestic producers of these goods has been eroding rapidly in recent years, as international competition has increased. This foreign threat to domestic manufacturers was magnified by the increasing strength of the dollar on foreign exchange markets. But the manufacturing trend that has hurt the rural South the most has been the tendency among domestic manufacturers to prefer urban areas. Stated simply, the rural South is losing its attractiveness to manufacturing concerns in the U.S.

In the past, the promise of low wage rates made the rural South highly attractive to industry. As the economy has shifted into the 1980's however, the factors influencing plant location have changed. The need for a highly skilled work force, accessible transportation routes, and a higher "quality of life" — as reflected by education systems,

health care, and cultural amenities — has become increasingly important. All of these factors favor the South's urban centers over their rural counterparts.

Even in the traditional manufacturing industries which have historically favored the rural South, the trends now favor urban areas. As production becomes more mechanized and capital-intensive, fewer laborers are needed, and those workers must be more skilled. Despite the textile industry's decline in recent years, the number of white collar employees has been steadily increasing. Skilled workers are far more plentiful in urban than in rural areas.

Equally negative for the rural South are the trends in transportation. Budget constraints at all levels of government have limited funding for road repair and maintenance, leaving rural roads and bridges in deteriorating condition. Only 33% of all rural roads in the South are rated in good condition, compared with 73% of Southern Interstate highways (Ford Foundation, 1986).

The fact that so many trends are working against the rural South simultaneously does not mean that every rural community in the South will soon be burdened with a depressed economy. The impact of these trends does not impact all areas equally. Many counties located adjacent to metropolitan areas will continue to thrive, feeding off the urban growth that is likely to continue for years to come. Counties with access to an Interstate highway also have a good chance for economic growth. Even many of the more remote rural counties will continue to thrive through the development of retirement communities and tourism, proximity to colleges, universities or military installations, or through income generated by available natural resources. Some rural communities, through aggressive local leadership or sheer luck, will continue to thrive on manufacturing. Yet clearly the majority will not. In short, it is those communities and population groups which have the least-wealth, educational attainment, natural resources-that are likely to suffer the most in future years.

The Hope

Regional patterns of employment and population growth are well established, but will they continue into the 21st century? "Extrapolating trends in a straight-line fashion has put egg on the faces of many demographic and economic forecasters in years past. Even with sophisticated algorithms that modify extrapolations, accounting for error, etc., unforeseen events can upset the most scientifically based projections."

With this caveat in mind, Kasarol adjusted the Bureau of Economic Analysis projection models, using current data to project population and employment for the South through 2030. The Bureau of Economic Analysis' models — called OBERS — are the most geographically detailed and demographically sophisticated long-range projections available.[1] The total number of jobs in the U.S. will increase from 109.5 million in 1985 to 142 million in 2020. In this increase of 32.5 million jobs, the South will gain 18 million or over half. Most jobs, both nationally and in the South, will be in the service, or tertiary sector with secondary sector jobs (manufacturing and construction) growing only slightly in the South. Primary sector employment (agriculture, fisheries, mining, forestry) will not increase in the region. Thus, the regional employment structures will continue to converge, so that by 2030 there will be few differences in industrial mix. By the year 2030, the South will overtake the North in proportion of the nation's jobs, with a projected 39.4 percent or two in five.

[1]For more information on OBERS models, contact the Bureau of Economic Analysis, U.S. Department of Commerce.

Trends in population growth over the next half-century will parallel economic growth. Kasarda's projections show that the South will gain 42 million people, growing from 82 million in 1985 to 124 million by 2030. In 1975 the North contained half the nation's population. By 2030 this share will drop to 38 percent and, as with the share of total jobs, the South will become the national leader.

The Outlook for Economic Development

Projections of regional growth in population and employment reflect a long-term equilibrium among the regions. Today the North is the dominant location of corporate and financial power. The competitive gains and losses in employment across North and South however, are resulting in a more even distribution of people and jobs in the U.S., making the regions more similar in terms of industrial structure and creating a national economy that is less dominated by a single region. In the future, regional trends in population and employment growth will correspond more closely with national trends than they do today. The problem then becomes how to distribute the jobs, and consequently the opportunities, evenly throughout the rural and urban areas of the South.

Given the dramatic changes and ominous trends facing the rural Southern economy, the time has come for Southern states to re-examine their approaches to economic development. Historically, the region has relied almost exclusively on recruiting new industry from outside. For today's changing economy however, Southern states must broaden their efforts by cultivating local entrepreneurship and harvesting from untapped local resources and markets which provide fertile ground for development activity.

Over the past 25 years the Southern strategy for economic development has been simple: recruit new industry. Industrial recruiters have been able to claim great success as thousands of new plants appeared in the South, in both rural and urban areas. Today however, the competition for new industry is growing increasingly fierce, especially in the rural South. As the Ford Foundation reported in *Shadows in the Sunbelt*, the situation (in the South) is analogous to the great buffalo hunts of the last century. The stampede of plants to the South is definitely over — especially for the rural areas that lack a skilled work force, transportation, infrastructure, and cultural amenities. Yet the hunters continue in their pursuit, hoping to bag one of the remaining hides!"

Despite the wide public support for industrial recruiting, and its proliferations to local communities throughout the South, questions have always existed about the actual impact of recruiting efforts on plant location decisions. Whatever the effectiveness of industrial recruiting in the past, the current trends clearly indicate that its value as a tool for economic development is declining in the rural South. One reason is simple. There are fewer prospects to recruit. Each year there are approximately 1200-1300 new plant openings announced nationwide — an average of only about 25 per state. This number is not projected to increase in the future. Moreover, both emerging growth industries and traditional manufacturers are increasingly seeking urban and suburban locations, leaving few prospects for the rural South.

Despite its historical importance in the development of the rural South, industrial recruitment cannot solve the complex set of economic problems facing the region. As a result, the need for new development strategies is increasingly apparent. But in many places in the rural South, the dramatic impact of a major plant-opening announcement, and the memory of past success continue to serve as powerful lures for economic developers, many of whom face pressures to produce instant results. New plants are often viewed as the only means by which rural communities can attract large amounts of capital. Yet major plant openings are just one of many potential sources of employment for rural communities. Creating new small and medium size businesses, expanding existing

businesses, and working to prevent closings of troubled but viable businesses can also boost employment.

Prospects for future economic development throughout the South as a region are excellent. The task for rural Southern developers is to take as such advantage of the predicted urban gains as possible. Rural communities in the South offer abundant opportunities for entrepreneurship and local business expansion. Many rural areas contain a wealth of natural resources which have been overlooked or exploited in such a way that they have not benefited the local community fully. Human resources offer an equally rich asset for development opportunities unemployed and underemployed workers — including minorities, youth, and older workers often overlooked in traditional development planning. Such workers have skills and entrepreneurial potential that can be harnessed in new or expanded enterprises. At the same time, untapped local and regional markets can also be a valuable source of new employment opportunities, allowing local communities to build from existing enterprises.

The purpose of alternative development strategies is to stimulate economic activity by assisting rural communities in taking advantage of these opportunities for local development. In contrast to the single-minded activity of traditional industry recruitment, alternative approaches to economic development employ a wide variety of strategies which can be tailored to local needs, goals, resources, and opportunities. These strategies can make use of specific types of businesses: worker owned businesses, cottage industries, and cooperatives, as well as traditional small businesses. Some strategies promote specific resources utilizing farm, forest, or water resources, as well as underdeveloped historical, scenic, or recreational attractions. Others seek to provide needed services to local communities, such as housing, medical services, transportation or daycare. Still other strategies are aimed at specific populations, providing remedial education and vocational training to improve the human capital upon which communities must build.

While the above-mentioned strategies are varied, there is a common thread that is necessary—a local or regional organization which knows that area and involves a cross-section of its citizens. Such organizations provide the key to success in implementing alternative strategies for rural economic development. Local organizations can take a wide variety of forms, including that of a council of government, a chamber of commerce, a community development corporation, businessmen's organization, an industrial development commission, or an educational institution.

By serving as "public entrepreneurs" local development organizations can bring new creativity and vitality to areas that continue to languish among centers of prosperity. By committing substantial resources to market research and by accepting a lower return than for-profit corporations, these organizations are often able to initiate development opportunities where traditional approaches have failed. Equally important, the technical assistance they provide to businesses can be invaluable in spurring growth and innovation.

Local development organizations which perform these functions are not widespread, while those that do exist are generally small and under-financed. As a whole, in their close adherence to industrial recruitment strategies, Southern states have done little to promote and stimulate local leadership and entrepreneurship for local development.

The above recommendations represent the type of strategies and initiatives which might prove beneficial to states in combating the ominous downturns and trends facing their rural areas. What is important however, is not any specific recommendation. Rather, it is a new philosophy and critical thinking that is needed. Southern states must recognize the gravity of the problems facing their rural economy, and they must respond by broadening their approach to economic development. Lacking this, the gulf which currently separates the two Souths, urban and rural, will continue to widen.

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Results

Table 1 shows black and white respondents' beliefs about the financial status of farm operators. Blacks were less likely to disagree with the idea that most money consumers spend goes to the farmer (the actual proportion is 24 percent).

TABLE 1. Beliefs About The Financial Status Of Farm Operators By Race, 1986

Item	Response			
	Agree	Undecided	Disagree	Chi-square
	Pct.	Pct.	Pct.	
Most of the money consumers spend on food goes to the farmer				
Black (N=171)	3.3	11.7	85.0	
White (N=2814)	2.4	3.6	94.0	27.6**
Farmers ought to appreciate farming as a good way of life and be less concerned about their cash income				
Black	25.8	6.7	67.5	
White	14.7	11.1	74.2	19.3**
Most of the time, farmers make reasonable profits when they sell their products				
Black	44.8	19.9	35.3	
White	29.0	22.0	49.0	20.0**
Most profits in the food business go to processors and distributors, not to farmers				
Black	73.6	14.3	12.1	
White	89.8	6.3	3.9	44.6**

* $P < .05$
** $P < .001$

Blacks were more likely to agree that farmers ought to appreciate their way of life and be less concerned about cash income. More black respondents felt that farmers make a reasonable profit. From another perspective, blacks were less likely to agree that most profits in the food business do not go to farmers.

Table 2 shows beliefs about the family farm by race. Blacks were more likely to sense that food production efficiency was more important than saving the family farm. Similarly, blacks were less likely to endorse higher food prices for the sake of supporting family farming.

TABLE 2. Beliefs About The Family Farm By Race, 1986

Item	Response			
	Agree	Undecided	Disagree	Chi-square
	Pct.	Pct.	Pct.	
Obtaining greater efficiency in food production in food production is more important than preserving the family farm				
Black (N=171)	39.7	17.3	43.0	
White (N=2814)	21.4	22.2	56.4	30.3*
Family farms should be supported even if it means higher food prices				
Black	34.0	16.3	49.7	
White	42.2	28.3	29.5	32.4**
Corporate farms should pay more taxes than family farms				
Black	66.4	11.1	22.5	
White	66.4	17.0	16.6	6.6*
The family farm must be preserved because it is a vital part of our heritage.				
Black	62.3	16.0	21.7	
White	83.3	7.8	8.9	49.1*

* $P < .05$
** $P < .001$

Blacks were more likely to disagree that corporate farms should pay more taxes than family farms, although two-thirds of both groups agreed with this statement. Finally, blacks were much less likely to agree that the family farm must be preserved because it is a vital part of our heritage, a 20 point difference in agreement.

The data in Table 3 profile black and white differences in belief about farm size and the role of government in agriculture. Blacks were more supportive of farm consolidation to achieve production efficiency, although about a fourth of both groups were undecided. Blacks were somewhat more supportive of laws limiting the amount of farmland one person could own. On the other hand, blacks were less likely to agree that most farms are too large.

TABLE 3. Beliefs About Farm Size And The Role Of Government By Race, 1986

Item	Response			
	Agree	Undecided	Disagree	Chi-square
	Pct.	Pct.	Pct.	
Government should encourage the consolidation of farms into larger units to achieve greater efficiency				
Black (N=171)	26.9	27.6	45.5	
White (N=2814)	11.6	24.1	64.4	40.3**
We should have laws limiting the amount of farmland one person can own				
Black	24.6	12.5	62.9	
White	17.3	14.8	67.9	6.1*
Most farms today are too large				
Black	16.8	18.0	65.2	
White	21.7	24.7	53.6	8.8*
Small farmers are farming because they failed to develop or acquire other skills				
Black	17.6	14.2	68.2	
White	9.6	11.7	88.7	13.2*
We should have laws that limit the ownership of farmland by corporations				
Black	31.4	26.3	42.3	
White	55.9	16.7	27.4	38.5**
Large farms get too many government benefits				
Black	30.7	35.6	33.7	
White	43.7	41.0	15.3	40.8**

* $P < .05$
** $P < .001$

Black respondents were less sympathetic to the plight of small farmers. More blacks thought that small farmers are farming because they failed to acquire other skills. Blacks were less supportive of laws limiting corporate ownership of farmland, more than a 20 percent difference in agreement. Similarly, blacks were less likely to agree that large farms get too many government benefits.

Table 4 profiles beliefs about government programs by race. Blacks were more supportive of guaranteed minimum farm prices. Blacks also were less opposed to government programs to help young people in farming, although 70 percent of both groups supported such efforts.

TABLE 4. Beliefs About Government Policy in Agriculture By Race, 1986

Item	Response			
	Agree	Undecided	Disagree	Chi-square
	Pct.	Pct.	Pct.	
Government should guarantee a minimum price to farmers for their products				
Black (N=171)	65.7	19.6	14.7	
White (N=2814)	52.4	22.4	25.2	12.9*
Government programs should help young people get started in farming				
Black	70.8	24.3	4.9	
White	70.2	14.7	15.1	21.2**
The government should not be involved in agriculture at all				
Black	17.8	17.8	64.4	
White	15.9	28.4	55.7	9.1
Farmers get more than their fair share of government benefits				
Black	23.7	24.4	51.9	
White	16.2	30.9	52.9	7.7*
Farmers get too much money from government programs				
Black	15.3	15.8	68.9	
White	19.6	29.3	51.1	21.5*

* $P < .05$
** $P < .001$

Blacks were more likely to disagree that the government should not be in agriculture at all. Whites were much more undecided on this item. Blacks were more likely to believe that farmers get more than their fair share of government benefits. Nevertheless, they were more likely to disagree that farmers get too much money from government programs. Whites were more undecided about the latter two items.

Table 5 shows black and white beliefs about the protection of farmland. Blacks were consistently less concerned about the loss of prime land to urban growth or to other uses. Blacks also were less concerned about foreign ownership of U.S. farmland. Blacks were generally much more undecided about these issues.

Beliefs about the way farmers treat people, animals, and the environment are shown in Table 6. Blacks were less likely to agree that most farm workers have decent working conditions.

TABLE 5. Beliefs About Farmland Protection By Race, 1986

Item	Response			
	Agree	Undecided	Disagree	Chi-square
	Pct.	Pct.	Pct.	
There should be a governmental policy to protect prime farmland from urban growth				
Black (N=171)	70.5	21.2	8.3	
White (N=2814)	82.0	12.5	5.5	14.1**
Good farmland should be protected from other land uses				
Black	77.6	17.9	4.5	
White	81.9	9.9	8.2	13.1*
Governmental policy should restrict the amount of foreign ownership of Uniated States farmland				
Black	74.4	18.7	6.9	
White	88.6	5.5	5.9	49.2**

* $P < .05$
** $P < .001$

Blacks were more willing to pay more for food if it meant more humane treatment of farm animals. Similarly, blacks were less certain that most farmers treat their animals humanely. Blacks were less convinced that most farmers take good care of the soil. Although both groups were in stong agreement that landowners have responsibilities to protect soil resources for future generations, blacks were more uncertain about this matter.

Table 7 examines perceptions of food quality by race. Blacks were less convinced that today's food is better tasting than ever, although a fourth of all respondents were undecided. Blacks were less uncertain than whites about the safety of today's food, as both blacks and whites were about equally divided on the issue. Blacks were clearly less certain that today's food is more nutritious than ever but were less convinced that today's food is fresher than ever. A majority of whites supported this statement. This was the only group in any of the survey items to positively endorse a statement about food quality.

TABLE 6. Beliefs About Farmer Treatment of People, Animals, And The Environment By Race, 1986

Item	Response			
	Agree	Undecided	Disagree	Chi-square
	Pct.	Pct.	Pct.	
Most farm workers have decent working conditions				
Black (N=171)	19.7	39.1	41.2	
White (N=2814)	36.3	32.2	31.5	19.5**
I would be willing to pay more for meat if it meant more humane treatment of farm animals				
Black	54.1	17.7	28.2	
White	39.5	30.6	29.9	17.5**
Most farmers treat their animals humanely				
Black	54.5	27.5	18.0	
White	71.6	22.7	5.7	45.4**
Most farmers take good care of the soil				
Black	57.2	38.3	4.5	
White	64.4	24.6	11.8	20.1**
Land owners have responsibilities to protect soil resources for future generations				
Black	80.6	9.7	9.7	
White	94.5	4.0	1.5	76.1**

* $P < .05$
** $P < .001$

TABLE 7. Perceptions Of Food Quality By Race, 1986

Item	Response			
	Agree	Undecided	Disagree	Chi-square
	Pct.	Pct.	Pct.	
Today's food is better tasting than it ever has been				
Black (N=171)	17.2	23.0	59.8	
White (N=2814)	31.9	27.3	40.8	25.8**
Today's food is safte than it ever has been				
Black	43.9	10.2	45.9	
White	35.8	24.9	39.3	18.9**
Today's food is more nutritious than it ever has been				
Black	34.5	20.2	45.3	
White	44.2	24.6	31.2	14.6**
Today's food is fresher than it ever has been				
Black	42.2	21.7	36.1	
White	55.0	18.2	26.8	11.0*

* $P < .05$
** $P < .001$

Conclusions

By comparison with white respondents in the survey:

- Blacks were more supportive of government involvement in agriculture, and were largely protective of the benefits farmers receive from government programs.
- Blacks were less concerned about the loss of farmland to urban use or foreign ownership of farmland.
- Blacks are more skeptical about the motive and practices of farmers with respect to treatment of people, animals, and the environment.
- All respondents were critical of the taste, safety, nutritional value, and freshness of today's food, but blacks were consistently less positive in their assessments.
- Overall, blacks have a more favorable perception of the farmer's financial situation.
- Blacks were consistently less committed to the concept of family farming and less concerned about the welfare of the farmer in the food system.
- Blacks were less concerned about the advent of large farms, endorsed the concept of efficiency as a basis for farm size, and were less concerned about corporate involvement in farming or the share of government benefits received by large farms.

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Changing Employment In The Rural South

Overview

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How are employment patterns changing in the rural and urban South? In the past few decades we have witnessed very dynamic economic changes. Economic development has been more rapid in the South than in other regions. During the 1960's and 1970's, the South accounted for more than half of all new manufacturing jobs in the nation and led in the creation of new, non-manufacturing jobs as well. But the 1980's have altered that picture of a booming Sunbelt. According to the Southern Growth Policies Board, the region's economy is undergoing a long-term restructuring. Employment patterns are changing. Economic development is no longer coming equally to all areas of the South, urban and rural areas alike. Instead, the much-heralded, often-documented rural growth of the 1970's has slowed dramatically, and urban areas are consistently outdoing rural areas in their efforts to attract jobs.

Statistic after statistic seems to indicate that the South's urban areas rather than rural areas will be the center of future regional growth. For example, more than 80 percent of the region's employment growth between 1977 and 1982 occurred in urban areas, even though those areas contained only 65 percent of the population. New jobs in the South are presently being added almost twice as fast to urban areas as to total areas. In Georgia, three-fourths of all new jobs since 1981 have been in the Atlanta area.

Not only are urban areas attracting new jobs, they are luring manufacturing and other jobs away from rural areas because of their more highly developed infrastuructures and skilled labor forces. While rural counties are often dominated by declining manufacturing industries, urban counties are much more likely to be dominated by service industries, which are growing relatively fast.

Growth in the South is coming to those areas where workers have the highest levels of educational attainment and per capita income, in other words, to urban areas. The rural South has some of the lowest levels of educational attainment and per capita income in the nation. Jobs are not flowing as rapidly to counties with high minority populations, and the rural South is home to most of the nation's rural blacks. In total, there is a growing disparity between the urban and rural economies of the South.

Other employment trends besides the increasing attractiveness of urban areas to new industries are stacking up aganst rural areas of the South, especially the declines in

agriculture and manufacturing, two of the rural South's major industries. According to the U.S. Department of Agriculture, the total hours of farm work in the South declined by more than three-fourths from 1950 to 1982, while the number of farms dropped by more than two-thirds. While agriculture accounts for only a small percentage of total employment, the farm crisis nevertheless has a significant impact on the overall economy in rural areas. Such communities are heavily dependent on agriculture and will likely be increasingly depressed as long as the farm income situation continues. Local tax bases are thus damaged, and rural areas find it more and more difficult to maintain the infrastructures necessary to attract industries and promote economic development.

Besides the decline in agriculture, the decline in manufacturing is also badly hurting rural areas of the South. The reliance of the rural South on manufacturing is apparent. About 30 percent of the total employment in rural areas is in traditional manufacturing industries—the industries which declined the most between 1977 and 1982. The decline of traditional manufacturing will eliminate an estimated 400,000 jobs in the region by the year 2000. Of the 9 million new jobs created, almost 7 million will be in the trade and service sectors. Not only are manufacturing industries declining, but their remaining jobs are shifting away from rural areas to urban areas as the factors that used to make the rural South attractive to new industries—low wages, for example—lose relevance. Increasing industrial automation, lower operating costs abroad and cities' more skilled labor forces and developed infrastructures are combining to squeeze rural areas out of the competition.

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Shifts and Needed Economic Strategies

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Introduction

Over the last two decades the rural South has been buffeted by several economic forces, each resulting in significant structural change to the region's employment patterns.

There was the short lived population turnaround of the seventies and the migration of industry to the Sunbelt. Most recently, the South has experienced very heteorgeneous economic prosperity. This paper examines the recent forces affecting the South (particularly the rural South) and speculates on their consequences in the near future.

Several economic forces have combined and are leading to signficant changes in the pattern of employment in the United States and in the South.
These forces include:

—The substitution of services for goods in consumption;
—The substitution of services for goods in production;
—The substitution of capital for labor in goods producing industires;
—The changing role of infrastructure in employment growth;
—The spread of technology to other counties;
—Increased international capital movements relative to movement of goods;
—The increasing number of services which have become relatively more "footloose" than in the past; and
—The keen competition among communities for traditional manufacturing industries.

Substitution of Services for Goods

As economies mature, the income elasticitis of most normal goods tend to fall. In the U.S. economy, income elasticities of many goods have fallen to the point where little, if any, increase in demand follows from increased income. The low birth rate further dampens demand by limiting population growth. Finally, rising labor force participation, changing tastes, and other forces have led to additional substitution of services for goods.

In production, the most significant economic forces are the rising importance of information, communication, robotics, artificial intelligence, genetic engineering, and other embodiments of high technology. In addition to the direct effects of these changes on employment, they have led to increased use of services, and reduced use of goods (particularly, raw materials) in the production processes of other manufacturers. The amount of raw materials embodied in a unit of output is now 40 percent of what is was in 1900.

Substitution of Capital for Labor

Like agriculture, the productivity of labor in most goos producing industries has risen dramatically, approximately fourfold, or 300 percent. The productivity of labor in services, on the other hand, has increased considerably less (about 25 percent). These increases have been accomplished by combining increasingly greater amounts of capital with each unit of labor. Since the demands for many goods have resen only slightly, the growth of employment in these industries has been meager, if positive at all. Some of this new capital has been introduced to take advantage of the emerging technologies discussed above, while other capital has been substituted for high cost labor. It is important to note that as this trend progresses, the cost of labor becomes less and less important because it makes-up a declining portion of total costs. This process can have positive effects on income, job security, etc., even while it reduces employment.

The Changing Role of Infrastructure

Research clearly indicates the role of infrastructure in employment growth, especially in rural areas. Highways, in particular, have shaped the pattern of our economic development. In many rural areas, air transportation has become more important in recent years as the value of time has risen in relative terms, Today, however, there is reason to believe that many of the emerging industries will be influenced by

communication infrastructure, in addition to (or perhaps rather than), transportation infrastructure. Communication tends to overcome space just as transportation does. Whereas transportation is commonly associated with goods and people, communication is associated with services and people. Requisites for effective communication include high quality, flexible communication capability and the necessary infrastructure. Education, health care, financial, retail services, and many other activities could employ communication infrastructure to overcome distance.

Spread of Technology to other Countries

Technology, particularly in manufacturing industries, tends to be very transferable. Capital, discussed below, also tends to move very easily in most of the more centralized industries. As technology matures it tends to drift away from the point of its development, or be duplicated by other industrialists, as subsequent generations of investment are made.

International Flow of Capital

It has been suggested that the driving force in today's world economy is capital movements rather than international trade in goods. Is has been estimated that world financial flows are about $40 trillon per year, while international trade amounts to only $2 trillion per year. Capital flows are several times larger than the value of world trade. These capital flows represent changing pressures on the exchange rate, changing indebtedness, changing location of production, and therefore, changing world employment patterns.

Service Industries have become Footloose

Industries have traditionally been classified according to their location preferences. Input oriented indiustries tend to locate near concentrations of their source of raw products, energy, labor, or some other factor of production. Rural areas frequently contain a large portion of those industries attracted to their agriculture, forests, mines, or energy. Market oriented industries tend to locate near large concentrations of buyers of their products. Services are usually cited as examples of market oriented industries since they tend to require close contact with their clients. Footloose industries are those which have greater freedom in their choice of location and tend to make their location decisions on the basis of other, more controllable factors such as taxes, transportation, location incentives, etc.

One of the most overlooked forces affecting employment, particularly rural employment, is the growing freedom of all industry, but most strikingly of services, to behave like footloose industires. The declining reliance on raw materials has allowed some manufacturing industries to make radical changes in their location decisions, particularly when there are significant potential savings in inputs such as labor. However, the growing role of information exchanges, communication technology, and computers, is having profound effects on many services.

Newspapers need no longer be local. National newspapers can exploit economies of size without compromising quality. Satelite technologies allow instantaneous audio, video, and information transmissions over long distances. This allows financial, insurance, real estate, educational, business management, accounting, legal, and many other services to be centralized. Indeed, many of these services are being and can be provided in international markets just as goods have always been. Retailing will become increasingly centralized and footloose as consumer acceptance of computer shopping rises. New service industries, yet unimagined, will undoubtedly arise to take advantage of the new technologies.

Fewer Industrial Locations

In the words of MDC Inc. in Shadows in the Sunbelt,

> *The situation is analougous to the great buffalo hunts of the last century. The stampede of plants to the South is definitely over—especially for the rural areas that lack a skilled workforce, transportation, infrastructure, and cultural amenities.*

Since the late 1970's, the number of big industrial locations has declined to a trickle. At the same time, the number of communities competing for these industries has risen dramatically.

Consequences

Deindustrialization

What effects do these forces have on employment when they occur together? First, they are resulting in the "deindustrialization" of our U.S. employment although not necessarily of the U.S. economy. This means that we are not so much decreasing our production of goods as we are decreasing our need for goods producing labor. As figure 1 indicates, service employment has more than quadrupled while employment in all goods producing industries has remained about constant since 1920. It has been estimated that between 1975 and 1980 the U.S. lost 1.8 million jobs to automation compared to only 122,000 lost to foreign competition.

For several reasons, we are probably losing some of our comparative advantage in goods producing industries which use labor extensively. Our economy must adjust to one in which our human and physical capital resources are employed in the production of products (goods or services) for which we have a comparative advantage. Interestingly, there is evidence that some of the industries which had moved to other countries to exploit cheaper labor are now returning to the U.S. to take advantage of the higher quality laborforce in this country.

Rural America, particularly the rural South, is being disproportionately disadvantaged by this deindustrialization. As Figure 2 indicates, the rural South is exceptionally dependent on the goods producing industries. While employment in goods producing industries has fared about the same in the rural South as in the rest of the economy, the gains in the service industry have been less dramatic in the South than in the rest of the nation.

Changing Comparative Advantage

Where is this new comparative advantage? The U.S. is still competitive in the provision of services although the emerging world economy could easily result in strong competition in many of these sectors as well. Another related, but perhaps more promising area is that of information and knowledge based industries. The U.S. can, if enough of its laborforce and its entrpreneurs acquire the necessary skills, take a dominant position in the development of new technologies. And, like the 'early innovator' in agriculture, the U.S. can also be a leader in 'first generation' manufacturing, particularly in those sectors where the technology requires specialized skills.

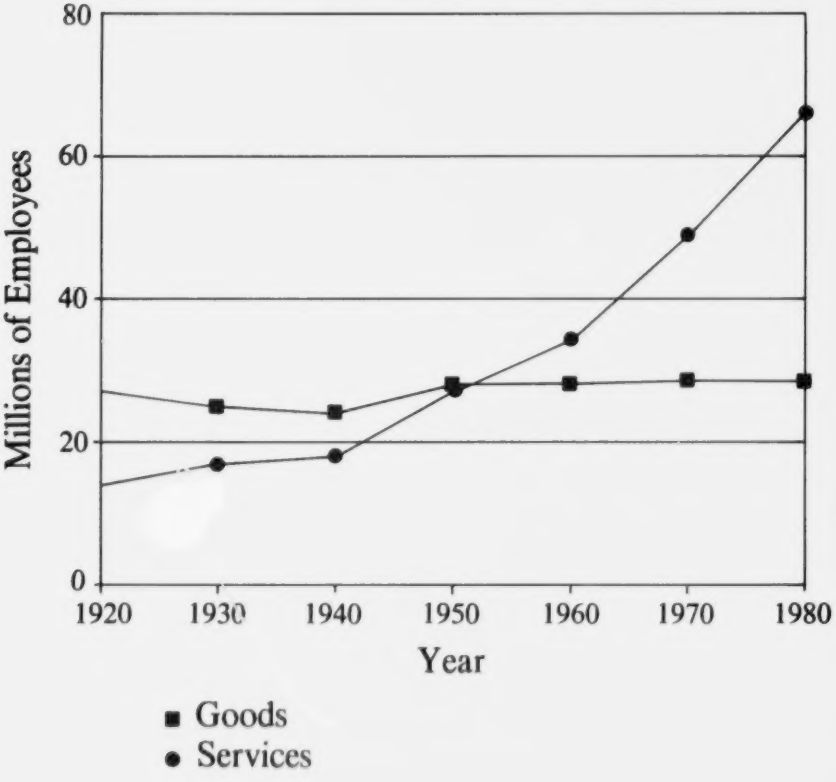
Employment Shifts to Metropolitan Areas

The Southern Growth Policies Board has noted the relative shift in employment from nonmetropolitan areas to metropolitan areas. A majority of this shift is in emerging manufacturing industries and services. At least part of this phenomenon is due to the increased location flexibility of manufacturing. This cannot be the sole explanation since the traditional manufacturing industries fared about equally in metropolitan and

Figure 1.

Goods and Services Industries

U.S. Total



nonmetropolitan areas. It is more likely that there is a relative lack of entrepreneurship, special infrastructure, and special inputs available in nonmetropolitan areas for these more innovative industries. It is also possible that, future investment (and therefore employment) in these industries will occur in rural areas.

Changing Distribution of Returns

The substitution of capital for labor affects the functional distribution of income by shifting returns from the owners of human capital to the owners of physical capital. In the case of agriculture this has resulted in larger farms, excess production, and declining population in rural communities. However, these changes are not nearly as dramatic as those occurring in some mining, forestry, and related manufacturing communities. Unlike agriculture where the owners of the physical capital are much like the owners of the human capital and labor that they are displacing the owners of physical capital in mining, forestry, and related manufacturing industries are very different from the displaced labor.

The physical capital owners are frequently very affluent, and usually not residents of the community in which their investments are made. They tend to spend their income outside the community and lead to lower employment and income multipliers in the community. The income tends to be distributed more unevenly and be more variable in these communities. These factors combined lead to a number of conditions (health, education, and housing) associated with lower quality of life.

Changing Economic Bases

The changing relationships between goods producing industries and service industries have serious consequences for local communities. No longer can all service industries be considered non-basic (or residentiary)—that is, industries that locate near basic employment to supply them with the goods and services they demand. The distinction between base and on-base industries must be redefined to reflect this new relationship. Information industries, tourism, geriatric services, education, and many other services are really basic industries since they do not depend on other industries to create the demand for their services.

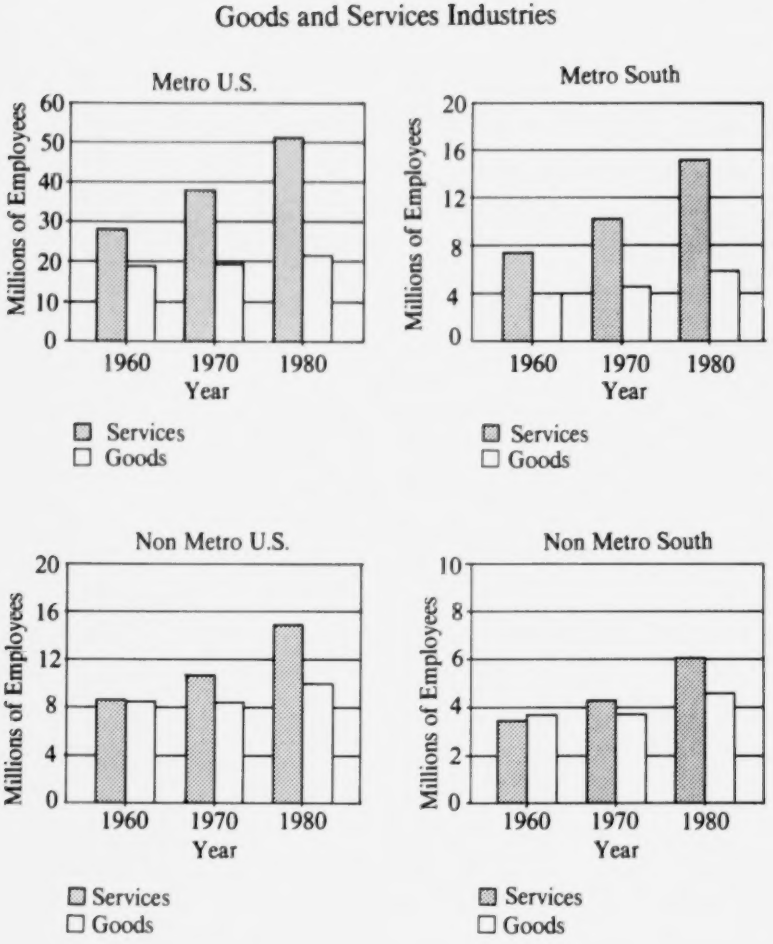
Other services are still best classified as non-base industries, but because they are footloose, it should not be assumed that they will necessarily locate near the base industries they serve. Cocheba, Gilmer, and Mack, for example have found that growth in manufacturing in the Tennessee Valley has not resulted in the expected growth in producer services. Much of the spinoff employment in these services has been enjoyed by other regions. For most communities, then, the effective multiplier has dropped significantly, while other communities find that employment is growing in the non-basic industries without the usual growth in the basic industries. In these communities, the economic base is becoming increasingly tied to activities in other areas; sometimes other countries. In a sense, the meaning of base and none-base industries has become outdated in the emerging global economy.

Needed Economic Development Strategies

Business/Industrial Development

What do these changes mean to community decision-makers, especially those in rural areas.? Community decision-makers, when formulating economic development strategies, have traditionally taken the input oriented industries for granted, sought the footloose industries, and assumed that their share of the market oriented industries would naturally follow. This perception is reinforced by the concept of the multipler which suggested that if a community created one new base industry job, additional jobs would necessarily follow.

FIGURE 2


Goods and Services Industries
Metro U.S.
Millions of Employees
60
50
40
30
20
10
0
1960
1970
1980
Year
Services
Goods
Metro South
Millions of Employees
20
16
12
8
4
0
1960
1970
1980
Year
Services
Goods
Non Metro U.S.
Millions of Employees
20
16
12
8
4
0
1960
1970
1980
Year
Services
Goods
Non Metro South
Millions of Employees
10
8
6
4
2
0
1960
1970
1980
Year
Services
Goods

In the future, the input oriented industries cannot be taken for granted. While they provide declining employment opportunities and often lead to fewer direct local benefits, they are still an important part of rural economies. In fact, because of their increased leverage of input producing sectors, especially services, their multiplier effect may result in equal or greater indirect impacts than in the past. Since these industries may be somewhat more footloose than in the past, additional effort must be expended to keep them. In addition, it may be possible to attract industries that are leaving other areas.

Competition for footloose industries is now very keen. Not only must the community compete with other similar areas, but now it must compete with some very different areas, including foreign locations. For many communities the 'ante' in this 'poker game' is too high. These communities would be better off allocating their limited development resources to other activities.

Finally, and most importantly, the community must not assume that market oriented industries will naturally follow growth in base industries. While the substitution of services for goods has probably increased the employment multipliers of most basic industries, the ability of any particular location to capture these ripple effects is substantially altered because the non-basic industires now have more freedom to choose their location. Efforts to identify and attract the types of businesses and industries which might support an area's basic industries will have the dual effect of capturing more of the multiplier effects while providing more support to the area's basic industries. In addition, rural communities must be prepared to capture the multiplier effects of activities generated in other parts of the country or world.

In light of the declining number of major plant locations and relocations in the U.S., two important sources of economic development are offered by 1) local industry retention and expansion, and 2) development of 'home grown' industries. These industries have the advantage of being more closely linked with the local economy because of their ownership structure and their relationship to other industries.

Infrastructure Development

Infrastructure investment represents yet another economic development strategy. Since different types of industries are attracted to different types of infrastructure, careful choice of infrastructure investments can have an important influence on a community's future. The growing importance of communications represents a unique opportunity for rural areas to overcome the disadvantages of distance. However, if the opportunity is not expolited it could represent another setback for rural relative to urban areas.

Labor Force/Human Capital Development

The frequent complaint that the region is losing jobs to off-shore competitors is, perhaps, true in the short-run, but is not true in the long-run unless we resist the necessary adjustments. Our labor force must be prepared for change—change in jobs, change in technologies used, and in some cases, change in location of residence. In order to accommodate this change the laborforce must have better basic education and must be prepared for frequent retooling. The illiteracy rate must be reduced and the average educational attainment increased. Programs must be developed to provide specialized retraining of labor that becomes redundant in traditional activities. Preferably, this retraining would be available to employees before their jobs are eliminated. These programs must anticipate technological change and must target the training in those fields that will have the greatest opportunities

Summary and Conclusion

The strategies for rural communities must change to reflect evolving employment patterns and forces. They must broaden their scope when targeting industries. They

must actively court basic processing industries. They must develop strong existing industry programs aimed at encouraging 'home grown' industries. One of the keys to achieving the last two objectives is the identification and development of entrepreneurship.

The importance of infrastructure cannot be overstated. This is especially true of some of the emerging technologies in communication. Communication promises to do more to break down the isolation of rural industries than any other type of infrastructure.

Finally, it is imperative that the rural South address the issue of human capital development. At the same time, human capital development must be accompanied by a growth in employment opportunities, suited to the skills and qualities of the current labor force, if adequate incentives are to be created to encourage the needed investments at the individual, family, local government, and state levels.

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Where the Jobs Were — Where the Jobs Are

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When we discuss changing employment patterns, it is not only possible, but probable, that we are in the same frame of thought as the old couple sitting on the porch at the rest home. They rocked in silent unison. Then he finally said to her, "Mamie, we're getting old, and I've been thinking. There's something that I need to say to you before it's too late."

"Yes, Clyde, what is it?"

"Well, Mamie, you know right after we got married, the depression came, and I lost that little business I'd started, but you stuck by me."

"Yep, that was a bad time," she agreed.

"And you remember, right after we built that new house, it caught fire and burned to the ground."

"Yep. It was awful."

"And then I got sick and stayed out of work, nearly three months, but you stuck by me."

"Yep," she nodded, her expectation growing, her affection rising.

"And the final blow came when we had to sell the farm to pay off the boy's gambling debts. But you agreed to it, and you stuck by me."

Yep." He was finally going to thank her for being so everlasting faithful.

"Well, I've gone over all of that, and I think it's time I told you how I feel. I've come to the conclusion that you're bad luck!"

It is not difficult to see how two people with exactly the same set of facts can come to an entirely different conclusion. My goal will be to present a set of facts, place them into some historical perspective, and then draw some conclusions. These may not be the same as others might draw from the same facts.

Current Trends In Employment

For purposes of analysis of lthe changing employment patterns in the South, illustrations are drawn from manufacturing and agriculture. Together, they have traditionally provided nearly half of the jobs available to workers in North Carolina. The two industries serve illustrative purposes because both are in decline, some say even in crisis and that decline is causing changes in employment patterns in the South, as elsewhere in the nation. Both accelerating globalization of the nation's marketplace and expanding technological developments have affected, not only manufacturing and agriculture, but construction, the service industries, retail and real estate, banking and finance, and other sectors of the economy as well.

During an earlier era of prosperity, the South lured manufacturing with the promise of low operating costs, cheap labor, a large work force and attractive government incentives. At least one southern industrial historian (Professor Cobb of Mississippi State University) has suggested that many of the companies who responded to those recruitment strategies were companies already in trouble. Their flight to the sunbelt was an effort to revitalize themselves at less cost in a new location. Many are now leap-frogging to foreign countries in search of yet another lease on their economic life. Professor Cobb questions the value of such industries as one of the major bases of the economy, especially in view of the havoc they wreak upon it when they leave.

In the last five years, more than 95,000 jobs in textiles and 16,000 jobs in the apparel industry have been lost in the Southeast. In North Carolina, 31,075 workers have lost jobs in the textile industry since 1978. This industry, combined with lumber and wood products, including furniture, account for 55% or total manufacturing employment in North Carolina. These are industries most affected by automation and relocation decisions.

Income and assets derived from agriculture have declined even more drastically. In North Carolina 13,000 farms or 14% went out of business from 1980 to 1985. In two years, between 1983 and 1985, land values and other agricultural assets declined by more than 2 billion dollars.

An Historical Perspective

A capsule history, focused on southern black farmers may bring the crisis into better perspective. From 1934 to the mid 1940's, an unexpected resettlement program established 100 farm projects, black and white, across the nation, eight of which were all-black communities in the south. Forty years after the program closed, thousands of farmers are in desperate straits. The 1982 agricultural census reported that 33,250 black farmers were still on the land. That number represented an 11% drop from 4 years earlier, and a 96.5% drop from 1920, when the number of black-owned farms peaked at 926,000.

The comparative picture is equally alarming. In the decade of the 70's, the number of minority farmers dropped 57.3 percent, or two and one-half times the rate for white farmers. These numbers are large, and they record the deteriorating state of the farm economy in the 1970's. They also confirm that the history of the decline in agriculture began long before the 1980's. It was well before the "Plight-of-the-Farmer" became a basic plank in the platform of every politician aspiring to elective office.

With the second greatest number of black farmers, after Mississippi, North Carolina had a lot to lose. It is now lost. If the rate of decline recorded from 1978 to 1982 Continues until 1995, there will be no black farmers left in North Carolina by the end of this decade.

Major structural shifts in the farm economy, and therefore, in patterns of employment, began with the proliferation of technologies that bought the post World War II tractors, harvesters, and combines to the family farm. These machines reduced the number of farms, increased the average acreage per farm, and sent thousands of farm workers into towns and cities to look for work.

By 1982, it took only one-fourth the total hours of labor to run a farm than had been required in 1950. In that same 30-year span, the number of farms dropped by two-thirds, and drove more than half of all farm operators to partial dependence on off-farm income. Today, two-thirds of all income available to farm families is generated from sources other than the farm. Many farm economists failed to perceive how dramatic the change in farm employment was because it came so gradually.

From the general economic crisis of the 30's to the end of the 70's, agriculture grew to become and continued to remain a healthy and prosperous business. People who stayed in farming were making so much money that we forgot to count the numbers who had to quit.

The Ripple Effect

In terms of the impact on changing employment patterns, the decline in agricultural income has induced a ripple effect that is itself economically devastating. Loss of income, whether from high production costs, crop failures, natural disasters, or low commodity prices, leads to decreases in the value of farm assets. This, in turn, reduces the local tax base, making it more difficult for farm communities to sustain an attractive quality of life for other types of economic opportunity. Add to that list the number of agriculture-driven businesses and industries whose sales have declined, and the crisis in the whole economy deepens.

An example from North Carolina. Last year, Greene County was identified in a study as one of the most rural of 100 agriculturally dependent counties in the United States. More than 53% of all income in the county is generated in agriculture. About 70% of the county's tax base consists of farm land and other agricultural assets. In the last 2 years, land values in Greene County have declined 35 percent. Sales of fertilizer, farm machinery and bulk barns for curing tobacco have dropped drastically.

During the 15 years before 1985, merchants sold several hundred bulk curing barns to tobacco farmers. In the last two years, only one barn has been sold in the county. That sale was made when fire destroyed a barn in the middle of the tobacco season. And, that barn was fully covered by insurance, thereby enabling the farmer to retrieve his loss.

Dr. Thomas E. Till, Professor of Economics and Finance at St. Andrews Presbyterian College in Laurinburg, North Carolina, recently concluded an 18-month study of factory job growth in rural black counties in the South. He had assumed that the wave of industrial activity coming to small towns in the South during the 60's and 70's had bypassed heavily black counties. His findings refuted his assumptions. Contrary to popular opinion, many counties with predominantly black populations either held their own or made significant gains in the number of new jobs in factories.

Professor Till examined 331 southern counties with more than one-third minority populations. He found that 253,000 jobs had been created in those counties, an increase of 91 percent in the two decades between 1950 and 1970.

There is also a down side. While the study indicates that southern counties made dramatic strides in factory job development, it does not indicate that reductions in poverty and unemployment occurred as a result of these gains. The "Catch-22" for workers in these counties was that at the same time that job opportunities in industry were on the increase, the agricultural-based segment of the economy was in decline.

The Prognosis For The Future

There is general agreement that industrial demands for labor in both urban and rural areas will change dramatically over the next few years. During the last decade, only 5 percent of the 20 million new jobs created in the nation were in manufacturing. About 90 percent were in the service and information industries in occupations that

required a mastery of basic computation and communication skills and/or formal training beyond high school.

It is estimated that five to 15 million existing jobs in manufacturing will be restructured as the rate of automation accelerates in the next few years. By 1990, 3 out of 4 jobs will require education or training beyond the high school level. In addition, the work force will be younger. A larger number will be between ages 25 and 44, and for everybody, a stronger basic skills base will be required for career flexibility. (Adults in the work force now change jobs four to five times over the course of a lifetime). Fewer manufacturing plants are considering relocation. The estimate currently is about 1,400, or an average of 28 per state per year. Competition among the states for new firms has intensified, the growth of manufacturing has slowed, and growth in employment in the nation as a whole has come to depend increasingly on small new businesses and service firms.

Nearly 87% of the work force in America is employed in small business. In North Carolina, 97% of businesses employ fewer than 100 people. In the 32 North Carolina counties east of Interstate 19, an area containing one-third of lthe state's land mass and one-quarter of its people, 2 out of every 3 jobs created since World War II have been created in businesses employing fewer than 10 people.

In December 1985, the Southern Growth Policies Board issued the results of a research project on employment trends in the non-metropolitan South. Entitled *After The Factories: Changing Employment Patterns In The Rural South*, the report confirmed a belated suspicion that long-term restructuring of the region's economy is occurring. It identified that change as occurring not only among the various industrial sectors, but also at different rates and in different ways in the urban (metro) and rural (non-metro) areas.

One basic premise in the design of the project was that access to interstate highways and proximity to urban centers have measurable and positive impact on growth in employment. It declares that remoteness from both is a deterrent to growth. The study confirms clear association of some characteristics with growth, but it could not determine whether those characteristics were the causes of growth or the results of growth in employment, for example, higher education level and incease in general population.

Data verify that rural counties have a different industry mix than urban counties. There is a strong connection between industrial mix and growth in employment. The higher growth occurs in concentration in the service industries. The service economy includes a wide range of industries, some dependent on consumer spending, others dependent on the needs of industry, and a third group that are themselves basic, as are finance, insurance, and software development for example. Most of the last group prefer to be located in metropolitan areas, and all three groups are likely to require higher skill levels and to pay higher wages than many traditional industries.

The implication of the findings on service industries is that at least one key to growth in employment for rural areas is to capture a share of the service industries. In view of these trends, the options for people looking for jobs narrow to two. They find work where they live or they live where they can find work. People used to go to Alaska and to Texas. The oil industry has collapsed and for the first time in its history, Texas is losing population.

New Migration Patterns

People move because they think their lives will be better somewhere else. Such migration is explained by the push-pull theory. People are pushed out of one area by negative factors and pulled into another by positive ones. Every such migration changes the employment pattern. The migration of blacks out of the South from 1910 through the 1960's was one of the largest movements of people in American history.

But, blacks have come full circle, reversing decades of migration out of the region. Between 1980 and 1985, 324,000 blacks moved out of the South, but 411,000 of them moved in — representing a net gain of 87,000 during that five year period. That reversal in migration signals change in the social, political, and economic structure of the South. And, blacks who are moving south today are younger and better educated.

One-fourth of those moving south between 1975 and 1980 were between the ages of 25 and 34. Sixty-one percent of them have at least a high school diploma, 26 percent have some college training, and 11 percent are college graduates. These new residents are also less likely to be poor than resident black southerners.

The percentage of blacks living in the South has stabilized at about 53 percent since 1970. That figure may being to increase again by 1990. The net result may well be a boost to economic conditions for all blacks in the region, especially if the social and economic gains continue with the projected migration. They will be working in small businesses and in the service industries. More and more of these businesses will be owner-operated, and an ever-increasing number of them will be engaged in international trade.

Conclusions

Future employment projections in the South are based upon two premises. One is that the changing patterns of employment are resulting from long-term, permanent restructuring, rather than from any temporary disruption in the economy. The other, perhaps with more serious implication for the future, is that there are conditions, especially in the rural South, that impede adjustment to the emerging changes in the economy.

The eminent plant closing, and there have been many of them, or the demise of the family farm, leaves the low-skill, no-skill worker ill-prepared to find employment in new growth industries. This is especially true for those based upon new technologies.

The needs of new industries include better educated and more highly skilled workers. They also include good schools, access to cultural activities, good transportation, and a state-of-the-art communications network. Much of the south is sorely deficient on all counts.

It is an exciting time. To paraphrase William Faulkner, "it's time for everybody that's going, to get in the wagon, and it is time for everybody that ain't, to get out of the way!" The South is engaged in a contest with time for a prosperous future, and the stakes are very high. We need to understand both the nature of the challenge and the life-or-death importance of the outcome.

We have a tendency in this country to identify a crisis, to beat it to death with rhetoric, then to move on to a newer one without changing anything. In this instance, change is in order.

We need the patience to seek permanent improvement rather than the "quick fix". We need the wisdom to remember that economic and industrial change take place at a much slower pace than does political change. This requires the confident awareness that our common goals are attainable only in a climate where the economy flourishes.

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The Changing Structure of Agriculture

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In the past few years, the financial conditions of many farmers in the U.S. have deteriorated significantly. Results based on a recent survey of farm costs and returns of about 1.7 million U.S. farms by the U.S.D.A. show that about 214,000 of these farms are experiencing financial difficulties. About two percent of them are technically insolvent with debts exceeding assets.

The survey also indicates that about one-half of these farms have sales less than $40,000 with farms producing cash grains and general livestock accounting for more than three-fourths of the financially stressed farms. Sixty percent of these financially stressed farms are concentrated in the Corn Belt, Lake States, and Northern Plains.

The financial stess evolved, among other reasons, because of low commodity prices, decreased farm exports, and dropped farm land values. Lower commodity prices were a result of large supplies and weak demand and reduced farm exports were due mainly to the world-wide recession and strong U.S. dollar. Price of land, hence land value, declined reacting to diminished prospects for income growth and higher returns on alternative investments.

These current financial problems are symptoms of structural changes (changes in number and size of farms) taking place in American agriculture. Currently, the U.S. is losing some 30,000 farms annually, but the amount of land in cultivation has not drastically changed. As a result, farms have become larger in size, and ownership has become more and more concentrated in fewer and fewer hands. The rate of decline in the number of farms, however, has not been uniform through the agricultural sector. Most of the decline has been in the small family farms category (gross sales under

$20,000 per year). These farms are located through the nation with major concentration in the South and North Central states, including Missouri. This paper discusses changes that have taken place in the structure of Missouri's agriculture in the past nineteen years (1964-1982) and its implication for the rural areas.

General Characteristics and Trends of Farms in Missouri

Missouri agriculture is an industry that has been, and remains, the bedrock of the state's economy. It accounts for 23 percent of the jobs in the state. It is also a major contributor to the state's economy through export sales. These sales bring dollars into the state and trigger chain reactions of additional economic activity in many parts of the state's economy.

Currently, Missouri's agricultural economy is struggling due to the financial problems faced by farmers ranging from difficulty in servicing debts to technical insolvency. These problems are symptomatic of an industry in transition or structural change.

Financial Implications for Rural Areas

Apart from the immediate effect on the individual farm families facing foreclosure and forced change in occupation, the farm financial crisis raises the specter of substantial long-run changes in the structure of agriculture and community life. The structure of farming is characterized by trends toward fewer but larger farming operations. Since the majority of farms in the state are small family farms, the change will clearly affect this group. The nature of economic and social health of rural Missouri, dependent upon the existence of a network of surrounding family farms, has major implications for rural communities.

While precise changes cannot be foreseen, major shifts in the ownership of the state's agriculture could also result in restructuring of agricultural service industries. These impacts could be severe on those communities where agriculture continues to be the principal source of employment and economic activity. Agriculture directly contributes to jobs, wages (income), and tax base for many rural communities in Missouri. Such areas experiencing a declining number of farms and a distressed farm economy are faced with problems of unemployment, reduced income, and taxes to provide needed serrvices. Rural governments and school districts are heavily dependent on property and sales taxes to provide basic service. Tax constraints mean a reduction in the ability of local governments and school districts to obtain revenues and, hence, to provide services.

Beside agriculture's direct contribution to jobs, wages and tax base for the rural communities, it has large "multiplier" or "ripple" effects on the agribusiness sector of the rural, as well as the state's, economy and on those small businesses dependent on the farm economy. Farming provides jobs in agricultural input industries. Some are located near farms or in the rural community. Thus, agriculture includes not only employment in farming but in businesses required to support the eventual delivery of farm products to domestic and foreign consumers.

With local governments forced to cut essential services, this will make the rural area less attractive to current residents and potential newcomers. In short, since rural areas are heavily dependent on property taxes, they are more vulnerable to a fiscal strain created by a declining farm number and distressed agricultral economy than other areas of the state.

Fewer farms will also mean a declining population base to support local retail and service establishments. These businesses are vanishing at a faster rate than ever before. Some rural areas, except for an occasional festival to celebrate a special event, show little signs of daily life. It is often the young who flee, leaving older residents to fend for themselves in an environment of fewer services. When farmers leave rural areas,

the effect is not only fewer services but increased costs for services for those left behind. As a chain reaction, cuts may be made in some services which will result in unemployment with added consequences for the rural areas.

A declining farm economy causes more farm land owners to consider selling, and the inability of other new or local family farmers to buy farm land makes it possible for increased acquisition by large farmers, developers, and/or speculators. This, in turn, means further increase in concentration of farms or a decrease in lands devoted to farming with their commodity price implications.

Large farms use fewer total inputs per unit of outputs, and so a trend toward larger units will lead to a general reduction in economic activity in rural communities. Luther Tweeten has estimated that if American agriculture were reorganized into farms with sales of $200,000 and up, agriculture-related economic activity in rural communities would decline to about 78 percent of 1981 levels. On the other hand, if agriculture were reorganized into farms with gross sales of $20,000-40,000, economic activity in rural communities would rise 5 percent over 1981 levels. Other similar studies found that conversion of agriculture to larger farms would cause the amount of income generated in rural communities to fall by about 17 percent compared to a typical farm alternative, while conversion to small farms would lead to an increase of about 14 percent.

The greater proportion of purchases made in local communities is by operators of small family farms. Small farm operators in an Idaho study had a higher propensity than larger farm operators to purchase both farm inputs and consumption goods locally. Similarly, studies of the towns of Arvin and Dinuba in California by Goldschmidt and the Small Farm Viability Project indicated that the community surrounded by small farms had experienced a higher level of retail trade and a greater growth rate of both retail trade and population than the community surrounded by large farms. Concentration of farm wealth, some claim, will not stop when all farms now called small family farms have ceased to exist. Instead, they argue that unless small farm programs and agricultural policies are somehow "turned around," farms with gross sales of $20,000 to $40,000 will fall by the wayside with great rapidity in the 1980's, and the demise of medium-sized farms in the $40,000 to $100,000 sales class ". . will not be far behind". One supporting factor of these forecasts is the currently severe financial difficulty faced by this group of farmers.

Present and future technological developments will create a situation where it takes fewer and fewer farmers to feed and clothe the state's, as well as the nation's, population. The present biotechnological developments in the farm sector promises even fewer farms due to the efficiency gains it is expected to provide. This increase in efficiency, unless offset by increase in domestic demand and/or agricultural exports, will result in fewer resources devoted to farming and fewer farmers. Such a substantial change in farming not only brings losses of individual sources of livelihood, of agribusiness firms, and of the rural area's entire trade and service sector, but of a structure that has been a mainstay of a way of life in Missouri and in the annuals of American agriculture.

Implications for Agricultural Policy

The tremendous technological revolution during the past few decades and the financial crisis for the second time in the history of American agriculture (the first being the period of the Great Depression) have been major reasons for the structural changes that are taking place in both Missouri and U.S. agriculture. These changes are legitimate agricultural policy concerns at both the state and national level.

The disappearance of individual family farms resulting from concentration and of the long-term trend toward consolidation of farm economic activity into so few hands could result in food prices being raised to significantly higher levels. A recent study predicts more concentration of farm wealth and production coupled with fewer farms

in the year 2000. If agriculture at some point may become so dominated by large units, institutional structures that now exist for marketing, input procurement and financing, which help family farms to exist and keep the farm sector competitive, will completely disappear.

The future structure of farming is an important economic issue. Policies must be designed to maintain a competitive structure in the agricultural sector of the state's economy. There are many and varied proposed public policies to the structural changes in the farm economy. Policies addressing the farm financial crisis of the 1980's range from "doing nothing" to reforming the international and national monetary policies (which will not be addressed here).

A "do-nothing" policy is workable, if the goal of the state government is to speed up the structural changes in the farm economy. However, apart from effects on the distressed farm families themselves, do-nothing has effects on the state economy (decrease in income tax), and the ability of local governments and school districts to obtain tax (property) revenue. The importance of family farms contributions to the state and particularly to the rural areas have already been discussed in the previous section.

In addition, full-time family farms contribute significantly to the cheap but reliable food supply system of the nation. About 18 percent of the consumer's income in this country is spent on food, compared to countries in Europe who spend more than 30 percent of their income. A do-nothing policy is a threat to this cheap and dependable food system. Therefore, for this group of farms to survive, innovative policies and programs at both the state and federal level are needed. The following are some suggestions of such policies and programs.

In the future, family farms can compete with larger commercial farms, only if they are better managed. Policies directed toward these farms may be appropriately directed toward improving their managerial ability. More importantly, they need to be given every opportunity to learn to manage the farm as a business operation that it must become to survive. Still emphasis must be placed on the state's research and extension programs to improve the management ability of these family farms.

Since the full-time family farm faces the threat of the current financial crisis for survival, income subsidy programs should be directed toward this group. Programs directed specifically toward this type of farm would be much less expensive than comparable ones directed toward big farms. A recent estimate showed only $2.5 billion per year as the cost to insulate the land and machinery of farmers approaching insolvency compared to $286 billion per year for defense. Let alone $2.5 billion, isn't a cheap and reliable food system worth more than that?

Farms need access to capital markets at terms and interest rates that are reasonable and affordable. A state-provided, direct low-interest loan program is one policy solution to this problem. Furthermore, these farms need access to markets that are widely used by large farms. Restructuring of markets to reduce the current concentrated marketing system and training these farmers in marketing are examples of policies to solve this problem. These farms are too small to conduct their own research program. Therefore, they need increased funding of public research and extension programs directed toward making this group of farms a profitable, as well as a persistent, segment of the state's, as well as the nation's, agricultural sector.

The policies suggested are long-run policies to solve the current financial crisis faced by family farms. There is no point in implementing such policies without short-term solutions to sustain recovery of this group of farms. Loan guarantees, linked deposits, interest/principal deferrals or buy down, land purchase and lease back, sale of agricultural bonds, and foreclosure moratoria are some short-term state government policy alternatives for distressed family farms with a future in farming.

In conclusion, the food and fiber industry of Missouri is a highly diversified industry that has been, and still is, the bedrock of the state's economy, accounting for 23 percent of the jobs in the state. The state ranks high among all states in major crop and livestock enterprises. It ranked tenth in the total value of principal crops grown in the U.S., comprising three percent of U.S. sales. These data not only make agriculture important to the general economy of the state and the country, but make Missouri a significant producing state in the most productive agricultural nation in the world.

The agricultural economy of Missouri is struggling because of financial problems faced by many farmers. These problems are symptoms of structural changes (recently characterized by trends of fewer, but larger, farms) in Missouri agriculture.

Although all forms of technological developments influence changes in the structure of farming in the state, none is likely to have as profound an effect as the probable outcome of the state's current financial crisis. If, as indicated earlier, the 22 percent of the state's farms that are currently experiencing severe financial problems fail financially, their land will probably be operated as large-size farms. This will result in a substantial decline both in number of farms and farm families. Most of the farms that fail will be small, full-time family farms as well as medium-sized operations.

This structural change, which amounts to depopulation of the state's farms, would have serious implications for the affected farm families, for agribusiness firms, and for the rural area's entire retail and service establishments. Public services, such as schools and other infrastructures, would be negatively impacted. Farm operators and others who might lose their jobs would be forced to seek alternative employment. Since jobs are scarce in many rural areas, many families would have to leave the local area. The social cost of this exodus could be great since many may have specialized human assets, with limited value elsewhere in the economy.

Special research studies, extension programs, and agricultural policies must be designed to avert the social and economic consequences of a large percentage of farm failures, and hence, a declining farm number. Policy options could range from easing the pain for farmers who fail financially to bailing out the agricultural sector, as was done for the automobile industry.

Finding solutions to the farm problems of the state and the nation means enormous challenges and opportunities ahead for researchers, land-grant universities, state and federal agencies, and for nongovernmental institutions and organizations as well. How well these agencies and organizations coordinate their efforts will be critical to the future survival of farms and a healthy farm and rural economy, and indeed a viable state and national economy.

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Assessment of the Quality of Life in the Rural South Resulting From Changing Patterns in Agricultural Production

Poverty Differentials in the Nonmetro Southeast

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Introduction

Poverty, an indicator of life quality, has a greater incidence in the southeastern region of the U.S. than any other region of the nation. According to a 1986 study, workers in the southeast are not benefitting fully from their labors as are others in the nation. They are unlikely to see much change in their standard of living. Johnson and Spurlock who conducted the study report that because the southeast is heavily dependent on low-wage, traditional manufacturing jobs, the region has the largest proportion of working poor in the country. Employment notwithstanding, the southeast has a disproportionate number of poor persons; six of the ten states with the largest proportion of poor people are in the southeast. All but one state of the region - Virginia - are in the bottom sixteen.

Personal income statistics indicate that workers in the region earn insufficient income for an adequate standard of living. A national study of changes in personal income per capita from 1984 to 1985 reveal gains of less than $500 for fourteen states, compared to an average gain of $900 for the remaining states. Seven of the twelve southeastern states made up half of the bottom fourteen. This relatively small percentage change in income results from an economy/region dominated by low-wage industries. These have national average wages of less than $8 per hour which include lumber and wood products, furniture and fixtures, food and related products, textiles and apparel, rubber and plastics, leather and tanning, and miscellaneous manufacturing jobs.

These economic conditions, coupled with the continuing structural change in American agriculture (fewer and larger farms with the disappearing small farmers entering the ranks of rural unemployed or underemployed) has also contributed to lowering the average incomes for southern rural/nonmetro residents. The adverse effect in the South is proportionally greater because it contains approximately half of the nation's small farms. These farm operators depend heavily on part-time, non-farm employment to supplement their farm income. As these small farm operators lose their farms, they seek full-time employment in the non-farm sector.

Manufacturing firms, once a major non-farm source of employment, are declining in the rural south. In recent years, these firms have been relocating to key urban centers,

attracted by a highly skilled work force, access to transportation and other amenities. Since the declining number of farmers/workers employed in agriculture can not be offset fully by increases in nonfarm jobs, this influx into the labor force characteristically causes unemployment to rise. As unemployment rises and the number of persons seeking employment increases, poverty begins to escalate, hence a low quality of life.

In order to sufficiently understand the problem of poverty, it is necessary that the causes be examined in order to identify those factors or conditions that determine whether a family or individual is likely to be in poverty. Research on the causes of poverty has concentrated on work-related characteristics of the poor and on the *labor market* in which they work. The causes of poverty are grouped generally into three categories: 1) work-related characteristics (human capital) of the poor; 2) the availability of employment and wage rates in the local labor markets; and 3) discrimination.

To clarify the role of factors contributing to poverty, the chief purpose of the study was to test the extent to which selected demographic, human capital and labor force variables differentiate between persons in, near, and out of poverty, a proxy for life quality. Five southeastern states serve as the focus of the analysis.

Previous Research on Poverty

The United States poverty rate declined drastically in the 1960's and remained relatively low through the mid 1970's. Not all rural areas shared in the increased economic benefits. For example, nonmetro areas continued to have high poverty rates.

In 1959, the poverty rate in nonmetro areas was 33.2 percent, substantially higher than the rate of 15.3 percent in metro areas. From 1960-80, the poverty rate in nonmetro areas decreased to 15.4 percent while the rate in metro areas dropped to 11.9 percent. After 1980, poverty incidence in nonmetro areas began increasing again, reaching 18.2 percent in 1983. This increase was due primarily to the slow down in growth of the national economy which occurred in the early 1980's.

Since 1960, economic growth, income from social security and private retirement programs and increased government assistance programs have been largely responsible for the decrease in poverty in nonmetro areas by providing more job opportunities and increased income supplements. However, of the increment in the number of jobs during the 1960's and 1970's, almost 75 percent were service jobs, many of which were part-time paying low wages. This finding suggests new jobs were only a partial solution to high rural poverty.

The uneven distribution of benefits from economic growth and social programs has contributed to high poverty rates in population subgroups with distinctive demographic, socioeconomic and employment characteristics. There are certain subgroups of the nonmetro population who bear the brunt of poverty, such as minorities, persons in families headed by women, the elderly, people with low levels of education, the disabled, and southern highlanders. Another researcher found a strong relationship between education, age, sex, race and other socioeconomic variables and poverty status. A disproportionate number of rural minorities are poor. In 1982, 42 percent of nonmetro blacks were below the poverty level, compared with 15 percent of nonmetro whites. Minority poverty is geographically concentrated in different nonmetro regions of the country. Nonmetro poor blacks are concentrated in the South, where poverty rates are among the highest in the nation.

The poverty rate for blacks has consistently remained two to three times higher than the rate for whites. In 1982, nearly one-third of all black households in the nation had incomes below the poverty level. The figure is influenced, however, by another characteristic of the poverty population. This group has a high proportion of female-headed households. Feminization of poverty occurs largely because earnings of women average approximately 40 percent less than those of men and a higher percentage of

households headed by females have only one wage earner. Since a disproportionate share of female-headed families are black, this sharply increases the incidence of poverty among blacks. Despite the high percentage of nonmetro poor blacks, nonmetro poor whites constitute the majority of the rural poor since they are the majority population.

The number of female-headed households is a sensitive indicator of hardship and poverty. The marked growth in the number of people in female-headed families who are poor is probably a direct result of the increasing rates of divorces, separations and out-of-wedlock births. The number of persons in families headed by a woman with no husband present has increased more than 15 percent since 1978, compared to a 6 percent growth in the overall population. One of the immediate and alarming effects in the growth of this group is the large increase in poverty among all children. The figure rose from 16.0 percent in 1979 to 21.3 percent in 1982.

Although traditionally the poverty population in nonmetro areas is characterized by two-parent families, the number of female-headed (usually single parent) households is rapidly increasing in these areas, a trend expected to continue in the 1990's. The number of female-headed households in nonmetro areas has increased by 25 percent during the 1970's and 20 percent of the increase in the total were below the poverty threshold. The increase in the number of these families is particularly significant because the poverty rate among them is very high (34.6 percent in 1980), especially among nonmetro black female-headed families (55.1 percent in 1980).

The condition of these families is very difficult since employment opportunities are limited, day-care services are in short supply and expensive, and in general, rural women are employed in low skilled, low wage industries. Incomes may be so low that employment often fails to bring families out of poverty.

The nonmetro elderly also experienced a high but decreasing incidence of poverty. In 1980, 1.9 million or 20.5 percent of the nonmetro elderly (65 years and over), had incomes below the poverty level, compared to 31.5 percent in 1970. One of the major factors contributing to this decrease has been the increment in income transfers, through social security and supplemental security income (SSI) programs. The increase in the number of comparatively affluent retirees migrating to rural areas during the 1980's contributed to the percentage decline in rural elderly poor.

Education has long been considered to be the key to economic advancement, and public policy has thus sought to encourage more schooling as a means of providing individuals with economically valuable skills and credentials. Education and poverty tend to be inversely related. People with a low level of education have a greater probability of being in poverty compared with people with a high level of education. The poorly educated are employed in low-paying jobs, and those with higher educational levels are qualified for better-paying and more stable employment.

Poverty rates for the farm population have been consistently higher than for nonfarm people across the nation. Even for farmers with substantial asset wealth, it is not unusual, in any given year, to be in "poverty" if they have experienced crop failure or a collapse of commodity prices.

The U.S. farm poverty rate was 14.7 percent compared with 1.3 percent nonfarm. However, poverty in the total nonmetro population (15.8 percent) was higher than the farm poverty rate. Although the percentage of farms in poverty is less than that of all nonmetro families, the average income deficit among the farm poor is much higher than that of all nonmetro poor - since farm family income is susceptible to annual net operating loss. The poor farm families average income was $3,735 below the poverty level, compared with a deficit of $3,033 for all nonmetro people in 1979.

Between 1969 and 1979, farm poverty rates have been decreased in all southern farm states that in the past traditionally have had high rates. All of the twelve southern states that had farm poverty rates over 20 percent in 1969 were below that level in

1979. Some of this drop was caused by the consolidation of farms in the South, and the increasing availability of off-farm work. The continued rapid exodus of blacks from farming, whose poverty rate in 1969 was 54 percent, also contributed to the decrease.

In summary, the literature suggests that poverty tends to be concentrated disproportionately among certain groups. The impacts of technological and structural changes in agriculture together with changes in the manufacturing sector trends have, in some instances, exacerbated the poverty problem and perpetuated the differentials, and in other instances have reduced poverty and income differentials. The net result, however, is that poverty still persists and although progress has been made in reducing it for some groups, the level continues to increase for others.

Study Data and Methods

Five southern states were included in the study: North and South Carolina, Georgia, Alabama and Mississippi.

Logit model was employed to determine the extent to which selected demographic (farm residence, household type, race, age and fertility), human capital (education and migration) and labor force (employment status and weeks worked in 1979) variables were adequate predictors of levels of poverty.

Logit analysis is a statistical technique to test hypotheses, fit models and estimate coefficients for qualitative data, i.e. race, sex, etc. This method produces maximum likelihood estimates of the coefficients by means of the Newton-Raphson algorithm for any model that has qualitative variables as its major components.

In a logit model, one variable is chosen as the dependent variable (poverty status). The criterion to be analyzed in this study is the expected odds of being in, near or out of poverty as a function of the independent variables-farm residence, household type, race, age, fertility, education, migration, employment status and weeks worked in 1979.

Model Variables

Poverty: Families and individuals with income below the official poverty threshold set by the federal government are classified as being in poverty. Poverty thresholds are updated every year to reflect changes in the Consumer Price Index (CPI). In this analysis, the 1979 weighted average income threshold levels were employed.

Poverty Thresholds

Size of family unit	Weighted average thresholds
1	$ 3,686
2	4,723
3	5,787
4	7,412
5	8,776
6	9,915
7	11,237
8	12,484
9 or more persons	14,812

Three levels of poverty are examined in this study. The poor represents those persons whose incomes were less than the poverty thresholds specified in the 1980 Census

of Population and Housing; the near poor represent those persons whose incomes were between 100 and 199 percent of the poverty level; and the nonpoor represents those persons whose incomes were 200 percent of the poverty threshold and above.

Farm Residence: A farm is a place with $1,000 or more in sales of crops, livestock, or other farm products during the preceding calendar year.

Household Type: A household is a family nucleus consisting of relatives or non-relatives individuals living in the same residential unit. Subcategories are: married-couple family; family with male householder, no wife present; family with female householder, no husband present; and nonfamily household, (a household consisting of a person living alone or a householder living with other unrelated individual). For this analysis, the focus will be on female vs. nonfemale heads of household.

Race: Race was based on self-identification by respondents, rather than a scientific definition. Only black and white respondents were considered in this analysis.

Age: Current age in years at last birthday, 18 to 90.

Fertility: Total live births born to women 18 years old and over regardless of marital status. Includes all children born to the women before her present marriage, children no longer living, children born to the women who were still living in the home, as well as children away from home.

Education: Highest number of years completed.

Migration: Individuals were classified as migrants and nonmigrants. Migrants included persons who changed their state of residence between 1975 and 1980. Nonmigrants included those persons who lived in the same house or a different house in the same state in 1975.

Employment Status: Employed, unemployed or not in the labor force.

The Estimated Model

The dependent variable, poverty status, is multinominal, taking on three values. Nine independent variables are hypothesized to account for the variation in a respondent's level of poverty. The Logit model is employed to examine this variation; the results are presented below. The equation is of the form:

$$Y = B_0 + B_1X_1 + B_2X_2 + B_3X_3 + B_4X_4 + B_5X_5 + B_6X_6 + B_7X_7 + B_8X_8 + B_9X_9 + e$$

where,

Y = Poverty status:	(1) Poor (2) Near poor (3) Nonpoor
X_1 = Farm Residence:	(1) Farm Residence (2) Nonfarm Residence
X_2 = Household Type:	(1) Female headed household (2) Otherwise
X_3 = Race:	(1) White (2) Black
X_4 = Age:	Measured in years
X_5 = Fertility:	Measured by the number of total live births born
X_6 = Education:	Measured in years

X_7 = Migration:	(1) Nonmigrant (2) Migrant
X_8 = Employment Status:	(1) Unemployed (2) Employed
X_9 = Weeks worked:	Measured as the number of weeks during 1979 in which person did any work for pay or profit

B_1 = Parameters to be estimated

e = Disturbance term

Given the model specification above, the following hypotheses were tested:

H_1: Farm residents are more likely to be below the poverty threshold than nonfarm residents.

H_2: Female-headed households are more likely to be in poverty than nonfemale headed households.

H_3: Black respondents have a greater propensity to be below the poverty threshold than white respondents.

H_4: Age varies inversely with poverty status; that is, older persons are more likely to be in poverty than younger persons.

H_5: Fertility varies inversely with poverty status.

H_6: Education varies directly with poverty status.

H_7: Persons who migrate are less likely to be below the poverty threshold than nonmigrants.

H_8: Employed persons are less likely to be below the poverty threshold than unemployed persons.

H_9: The number of weeks worked varies directly with poverty levels.

These hypothesized relationships are supported, in part, by the descriptive statistics shown in Table 1. Note the direction of change in the values of the independent variables across the three poverty levels. For example, as the number of weeks worked (%) increased or educational level increased, the individual gradually moves out of poverty. The average age of respondents and the percentage distribution of farm residents are two exceptions to what one would expect.

Findings

A logit analysis was performed on nine demographic, human capital and labor force variables: farm residence, household type, race, age, fertility, education, migration, employment status and the number of weeks worked. The results of the maximum likelihood estimates are presented in Table 2. Two coefficients are generated for each independent variable; the three categories or groups of the dependent variable (poverty status) are compared two at a time. The first coefficient compares the poor and nonpoor respondents in terms of each independent variable, while the second coefficient compares the near poor and nonpoor respondents in terms of each independent variable.

Both the sign and magnitude of the coefficients are important for interpretation. For example, the coefficient of .09 for farm residence suggests that farm residents are more likely to be poor while nonfarm residents are more likely to be nonpoor. The associated 'odds' coefficient of 1.20 suggests that farm residents are 1.2:1 more likely to be poor than nonpoor or, the odds of a farm resident being poor is 1.2 to 1. In addition, the associated 'Z-value' of 1.97 is a Z-score or a standard score, suggesting that this relationship is statistically significant.

Table 1. Selected Sample Characteristics of the Five-State Study Area by Poverty Status

Items	Total	Poor	Near Poor	Nonpoor
Percent of Farm Residents	4.7	3.7	4.4	5.4
Percent of Female-Headed Households	14.4	31.5	17.1	6.3
Percent Black	31.5	57.8	38.8	16.1
Average Age	27	24	26	31
Average Number of Children	1.4	1.6	1.4	1.2
Average Education	10.0	8.7	9.6	11.8
Percent Migrants	7.4	5.3	7.0	7.9
Percent Unemployed	2.9	3.7	3.3	2.4
Average Number of Weeks Worked	16.6	7.4	15.7	26.7
Total	186,659	38,092	50,844	91,723
	100.0%	21.1%	28.1%	50.8%

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Table 2. Estimated Coefficients for Logit Model Poverty Status

Variables	Coefficient	Beta[1]	Odds[2]	Z-Value
Farm Resident	.09	.18	1.20	1.97*
	-.06	-.12	.89	-1.48
Household Type	.39	.78	2.18	5.74*
	-.04	-.08	.92	-.86
Race	-.41	-.82	.44	-18.04*
	-.04	-.08	.92	- 2.02*
Employment Status	.43	.86	2.36	6.29*
	-.03	-.06	.94	-.34
Migration	-.12	-.24	.79	-3.17*
	-.08	-.16	.85	-2.02*
Age	.03	.06	1.06	2.19*
	-.01	-.02	.98	-.36
Education	.33	.66	1.93	4.67*
	-.09	-.18	.84	-1.77
Fertility	-.01	-.02	.98	-.21
	.23	.46	1.58	3.95*
Weeks Worked	.02	.04	1.04	1.55
	-.01	-.02	.98	-.39
γ_8 (Mean)	-2.36	-4.72	0.01	-4.04*
	1.13	2.26	9.58	1.21

**Statistically significant at the 0.05 level.*

1. 'Beta' is simply the coefficient generated from the logit analysis multiplied by 2 (.09 x 2 = .18)

2. 'Odds' is the inverse natural logorithm of 'Beta.'

Summary

A logit model was employed to examine the extent to which five demographic variables (farm residence, household type, race, age and fertility), two human capital variables (education and migration) and two labor force variables (weeks worked and employment status) differentiated between persons in, near and out of poverty, a proxy for life quality.

In terms of hypothesis testing, the model performed most satisfactory. Seven of the nine odds coefficients pertaining to the poor and nonpoor (farm resident, household type, race, employment status, migration, age and education) are statistically significant in the expected direction. Only three of the variables (race, migration and fertility) distinguished between the near poor and nonpoor significantly. With respect to the

magnitude of the odds of being in poverty, the odds are higher for the unemployed, female, heads of household and persons with low educational attainment.

The rural southern economy is one of the nation's poorest regions economically. It is characterized by a changing structure of agriculture and a declining or at least a slow down in growth of the manufacturing sector. The rural Southeast magnifies this problem several-fold. These shifts in the rural southern economy have resulted in a reduction in the demand for labor, a large number of displaced workers who possess few or no marketable skills, and an increase in the poverty rates.

In contrast, the U.S. economy is shifting toward a "high tech" labor market, with strong emphasis on service jobs. The Southeast falls short of the national trend, particularly in rural areas, relative to employment opportunities, incomes for workers and wage disparities between men and women and blacks and whites. Consequently, it is essential that rural economic development programs in the southeast involve efforts to attract new industries. This will create employment opportunities to enable the workforce in the southeast to rise above the poverty threshold. There is need for training and education to assure a skilled and educated labor force. Given that employment status and education were two of the most statistically significant variables in the logit model differentitating those in and out of poverty, the availability of jobs and increased training/educational levels will significantly improve one's quality of life.

Considering the present economic conditions and the labor market climate of the rural Southeast, the creation of substantial numbers of new jobs appears doubtful. We need not be reminded that the antipoverty programs of the 1960's are no longer on the priority list in terms of federal support. In the absence of federal policies and programs that address the needs of the poor, particularly at the subnational level, the prospects for raising substantial numbers of persons above the poverty threshold appear to be poor. The study results point out clearly where new efforts should be focused for the greatest effect.

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Establishment of Values

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Quality of life is an essential matter that seems to be especially relevant in all parts of our modern world. It is true whether one lives in a rural or urban environment. In spite of the tremendous progress of science and technology in the modern world, it still does not necessarily mean that we will all be able to attain what seems to be the most desirable life goal. This includes the potential of living a kind of life in which we can find security, peace, harmony, self-respect, respect of others and the fulfillment we all need.

If values such as those seem to be some of the most shared, respected and highly praised values in many parts of the world, we have also to consider the possibility that totally different, even opposite values could also be praised. For instance, it is very obvious that the high value attached to money or fame is not always in contradiction to other values like peace and self-respect. But it is also evident that it can very easily lead to a complete negation of what so many of us consider to be the most fundamental ethical values.

It also seems that, among the numerous crises the modern world is facing, the issue of values is an urgent one. As an article by Edward Fiske recently pointed out in the *New York Times*, "Prodded in part by rising concern over drugs and teen-age pregnancy, public school officials around the country are paying increased attention to the teaching of personal and social values. The new concern for values in the classroom has drawn high level political support from both liberals and conservatives. Governor Cuomo of New York recently announced that he was drawing up proposals to restore to public schools the teaching of values like "love thy neighbor" and respect for the law. William J. Benett, the U.S. Secretary of Education, has repeatedly called for more attention to values, urging school officials to concentrate on moral and ethical issues around which there is broad support in the local community."

The question of ethics has long been debated. When one contemplates the quality of life, and the values that direct our lives, a few questions almost instantly come to mind. What is the exact meaning of values? How are values defined by societies and individuals? Do we think and act according to our own values? How do we define what is called "social majority"? Are predominant values always part of a moral system? Are they sometimes in contradiction to the kind of moral system we have been accustomed to and taught?

Still more questions arise. How do values change with time? How can we make them change? How different are they from one culture to another? From a social or a political group to another? Do certain values never change? Are there timeless, international and intangible treasures of definite moral principles that all humans share and cherish in spite of our differences?

Many others could be added to this list. Values are one of the most interesting topics—one of the most troublesome matters, too, on which we can exercise our mind.

This paper will raise a few issues related to values and ethics, therefore also related to the quality of life for which we can hope. The view will not be from an economical or political perspective, but from one of the humanities. The humanities include a lot of different approaches and, among them, the literary is the one I chose. Not only does literature happen to be the object of my teaching and my research, but literature appears to be one of the most revealing ways to trace the evolution of numerous human facts like the diversity and evolution of ethics.

To analyze or even describe what seems to be, at the same time, very obvious and mysterious, literature can be most useful. Sociology, psychology, even economics and politics are also very meaningful ways to study human behavior. These may show the reality of our lives and describe the values to which we are the most attached. Looking at values through literature is often a part of dream, a part of desire for another life that is revealed through art. That is enclosed, definitely, in words, whether desires and dreams come true or not.

We all know that literature is an artistic production that does not always reflect the trends of a society or even a group. The act of writing is usually an individual one, effected by only one person. Even if society leaves its mark on the writer and his work, literature is one of the very rare places to create your own world. By imagination, we can break almost every bond with what we call reality. Literature can be, but is not always the mirror in which one can see the reality of our societies. The function

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of literature, if we have to give it one, is certainly not only to describe, in a literary way, the reality of the world. On the contrary, literature, even when depicting reality, transforms reality, otherwise, it would not be literature.

It is this essential aesthetical purpose that characterizes literature as an art. In spite of that, writers, sometimes, give themselves this kind of goal. That is to describe in their own terms, the reality of the world in order to make us, as readers, think about ways to change the reality of this world we are living in. There are times when literature can be a most useful and powerful fashion to demonstrate or redefine what this world should be and how human beings should behave in order to create the harmony and the beauty for which many are longing. Of course, it does not necessarily mean that literature has the real power of changing things. If only words were needed to improve our existence, it would be simple indeed, and easy. But we all know also the tremendous influence words have upon our beliefs, thoughts and acts (politicians, for instance, are particularly aware of this fact).

Literature creates a world of its own, thus, it also creates values of its own. Whether these values are acceptable or even considered as valid ones by a national or an international community is another problem. That brings us back to the question I raised a moment before. Are there certain values that never change and would be a kind of everlasting treasure of moral principles that we all, as human beings, share and cherish in spite of our national, cultural and political differences?

Looking at history and literature, it appears very clearly that values do change with time and numerous facts prove that what was considered wrong not so long ago became eventually right and may change again. These are dependent on human specific needs, interests and struggles for the possession of material goods, political supremacy or mere power over other human beings. One of the numerous examples history and literature give us concerning the evolution of values is a phenomenon that changed the fate of large parts of the world and whose effects have not disappeared.

This phenomenon was precisely, in itself, an imposition of certain values upon other values. It was an attempt to replace, if not destroy a body of values with another one that was considered at this time as the right one. The phenomenon left a very visible mark, not only on the historical conscieousness of humankind, on economics and politics but also on literature. It has been depicted at great length in a good number of novels and is still the object of passionate debates and controversies.

This historical and ethical phenomenon is the colonization by a number of European countries of what is called now third world nations. Among the numerous and diverse consequences of this historical event, the cultural clash that colonization created is still very perceptible. It has been widely expressed in literature, for example, in African and Caribbean French-speaking literatures. The terrible clash colonization created was not only political and cultural, it was also an ethical one. It was a battle between different and sometimes opposite values. In many African countries, such ways of living and such beliefs as, for instance, polygamy and animism were fought by the colonialists as immoral behaviour and evil practices.

Many African societies saw the values that had bound together the members of the community being ridiculed then outcast by people who thought that their own values were superior. This is the reason why so many African novels written in French have been depicting the terrible ethical damage and the very deep psychological wounds that are some of the most painful consequences. Other writers describe at great length the terrible ethical damage and the almost incurable wounds slavery caused. The disruption that colonization created is extremely visible in the way rural life is depicted in many African novels. In their nostalgic painting of an harmonious rural society, many writers insist upon the values around which the community organized itself.

They opposed the kindness and courtesy of rural societies to the dehumanization one faces very often in urban environments. They were representing a kind of Eden, maybe no longer existing but whose memories could sustain a most needed hope for a better life to come. In doing so, they restored the dignity and the pride that had been, sometimes, destroyed by the imposition of values they could not consider as their own because they had been imposed by an external and illegitimate power. In their attempt to restore dignity, pride and faith in their own values, many African and Caribbean writers were also trying to restore and reshape a self-image that had been undermined by continuous misrepresentations. They took issue with colonialists who despised cultures that were not, in any case, inferior to theirs but were only different.

Self-image and self-respect are of vital importance from many ethical points of view. As Clifton R. Wharton Jr., Chancellor of the State University of New York expressed, recently, in his plenary address to the National Urban League Conference,

> *"It is hard to determine, and even harder to prove, just how thoroughly the individual's ability to compete, to excel and to achieve are shaped by self-image - which is, of course, closely tied to the perceptions and expectations of the individual exhibited by others. But there is a large and growing body of empirical research data supporting the common-sense view that self-respect is critical to self-realization."*

In this address, Chancellor Wharton was talking expressly about young black Americans but his remarks could easily be extended to other sectors of the population as well as to countries other than America.

The crisis we are facing now is as much an economical one as an ethical one. This crisis does not seem to be restricted to a particular country or even a particular social group. Whatever causes and names we give to the problems which confront us all, even if the answer is certainly not enclosed in literature, we can still use it as a tool and even as a weapon, among other ones, to think about ways we can improve our lives.

In my teaching experience of African and Caribbean French-speaking literatures, I found the literature can be, in many aspects, a good way to make young and less young people think about their own life from a point of view, the literary one, that allows them to take a certain distance from their immediate problems and difficulties. By making them talk about issues that were not directly related to their own daily life experience but were showing other ways to go through life, it offered the possibility to debate issues like the evolution and the diversity of ethics.

In conclusion, I quote a passage from one of the greatest novels I have ever read. It is from Lois Neal Hurston's book, *Their Eyes Were Watching God*:

> *"Ships at a distance have every man's wish on board. For some they are with the tide. For others they sail for ever on the horizon, never out of sight, never landing until the watcher turns his eyes away in resignation, his dreams mocked to death by time. That is the life of men. Now, women forget all those things they don't want to remember and remember everything they don't want to forget. Then they act and do things automatically."*

Rural Women: Unseen Partners in the Economy

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Women have long been "unseen partners" in the process of agricultural production. They have been partners in the sense that their field labor in direct production and their houshold labor in maintaining the farm labor force have been essential components of U.S. agriculture for centuries. As slaves, black women worked in the fields and houses of the plantation system—picking cotton, stripping tobacco, preparing food for others. Wealthier white women functioned as managers and supervisors of the domestic economy of plantations. Low-income white women worked beside their husbands and children in the fields of family farms, or as tenants or sharecroppers on land owned by others. And yet, all of these women have been "unseen," invisible, in the sense that their labor, their productive role, has gone largely unrecognized in popular images of the "American farmer," and in scholarly studies of our agricultural system.

For the last century, women have also contributed essential income to the farm economy through their off-farm labor. Black women, for example, long worked as domestic servants in the households of the more well-to-do. As recently as 1960, nearly half (45%) of all employed black women in the South worked as domestics. Although their wages were meager (domestic service carries the distinction of being the lowest paying occupation in the U.S.), they were nonetheless essential to farm families chronically strapped for cash.

Farm women, both black and white, have also worked for wages in agricultural processing—whether in canneries, poultry or tobacco plants. Women and originally, children, predominated in the labor force of the South's most important manufacturing industry, textiles. In all of these activities, farm women have generated cash income and, in occasional cases, health insurance and retirement benefits, which have been critical to their families' economic survival.

Beyond noting the broad trends of impoverishment and unemployment, it is difficult to gauge the specific effects of the present agricultural crisis on farm women per se. It is generally true in our society that the survival skills with which families weather impoverishment or periods of reduced income are vested primarily in women. It is women who end up patching or making clothes instead of buying them, stretching the food supply to make two meals instead of one, or treating a sick child with home remedies instead of making an expensive trip to the doctor. In other words, women tend to intensify their domestic labor during periods of economic hardship, substituting their own hard work for the goods and services that their families can no longer afford to buy. One may surmise that his is happening in many farm families today.

It is also clear that women are increasing their wage-earning labor by seeking employment off the farm. Today, almost half (48%) of all farm women in the U.S. are in the paid labor force, as compared to only 23% in 1960. Like rural women throughout the South, however, farm women who are looking for jobs these days find few that pay a living wage. The economic crisis in agriculture has coincided with a drastic employment decline in many other traditional Southern industries.

For rural women, who have long been the backbone of the labor force in some of the South's key manufacturing industries, this loss of jobs has been devastating. Women's unemployment rates in many southern states are well above those of men. For black women, unemployment in the 15-25% range has become standard. Among those who

live on southern farms, the unemployment rate for women has been double that of men.

Women have of course found employment in newer, non-manufacturing sectors of the economy. In the rural South, as in other areas of the nation, the service sector is a key source of new jobs and a major employer of women. In the service industries of the rural South, women make up over 60 percent of the labor force. For those with professional training in the traditionally female fields of nursing and teaching, the expansion of educational and health services (which account for a large portion of this sector) has brought increased job opportunities.

Women without professional training, however, tend to end up in the bottom ranks of the service sector, where wages are low, benefits are [illegible] nd the opportunities for advancement are scarce. Cooks, maids, cashiers, secretaries, waitresses, nurses aides—these are the occupations of most women in the rural South today. Women displaced even from those industries traditionally considered low-wage are hard pressed to find a service job that matches their former wages. The average wage for workers in restaurants and bars, for example, is about $2.00/hour below that in the textile industry.

Crisis on the Farm

This "double whammy"—the farm crisis coupled with the loss of traditional off-farm jobs—affects rural women in ways that go beyond unemployment statistics and wage rates. Economic hardship also reaches into the heart of family life in the form of suicide, domestic violence, alcohol abuse, marital breakup. It is difficult to document the extent of these problems among southern farm families not only because the compilation of data lags far behind the occurrence of the problem, but also because events like the breakdown of a marriage may lead one or both partners off the farm altogether. For example, the low percentage of female-headed families in the farm population may be in part because such women don't remain on the farm.

A study recently completed in West Virginia is suggestive in this regard. This was a study of homeless people in the state capital of Charleston. Contrary to popular impressions, the research found that the single largest portion of homeless people were not the deinstitutionalized mentally ill, petty criminals, or alcoholics. They were rural people who had been left destitute by economic decline, and who had migrated to the city on a well-worn path called "in search of opportunity." As part of the growing homeless population of the city, most had not yet found it.

The overall point is that women's labor has been essential to the rural Southern economy for centuries; as a result, women are deeply affected by present trends in that economy. This occurs not only indirectly, through their husband's changing economic fortunes, but also directly, through their own experiences in the labor market and household. Rural women are intensifying their domestic, household labor at the same time as they are increasing their wage-earning labor outside the home. Simultaneously, they are struggling to deal with the destructive effects of the economic crisis on their families.

Prospects for the Years Ahead

So, what of the future? What forces are shaping the future for rural women? Specifically, how is public policy shaping their future? First, the obvious must be stated because it is so important: the economic hardship facing rural people and, specifically women, is being compounded by drastic cutbacks in programs that once cushioned the impact of such hardship. This has occurred not only with transfer payments and income support programs like AFDC and food stamps, but also with programs that assisted people in participating more fully and fruitfully in the wage economy—retraining programs for displaced workers, job skills development for young people, etc.

Since 1980, funding for all federal employment and training programs has declined by 65 percent. These cutbacks have coincided with a policy of actively undercutting affirmative action in both employment and education. Increasingly, women and minorities are neither trained for nor granted access to higher paying jobs. These policies seem so obviously harmful and irrational, given present unemployment and poverty rates in precisely these groups, that they require no further comment.

Other greatly needed programs have never seen the light of day. For example, the need for high quality, locally controlled child care, especially in rural areas, is so pressing, so urgent, that it can scarcely be overestimated. We are long past the time when rural women, including farm women, stay home to tend house and children while rural men go off to work in the fields or the paid labor force. Indeed, for many rural families, particularly black families, a non-wage-earning wife and mother is a luxury they could never afford. And yet, the fact that a majority of mothers—those in whom primary responsibility for child-rearing traditionally has been vested—now spend at least eight hours each day working in the paid labor force simply has not been absorbed on the social policy agenda. As a result, many lower-income women face a heartbreaking choice between providing direct care for their children, or leaving them inadequately tended while they work to put food on the table.

The irony in this neglect is that child care represents an excellent target for local economic development. Low-interest loans and technical assistance for the development of locally controlled child care centers, coupled with child care subsidies for low-income working mothers, could promote long-term development in several ways. By directly offering employment to child care workers, providing a service that would enable women to take advantage of education and training programs. Development can also be enhanced by offering enrichment programs to pre-schoolers and after-school programs to older children.

The Price of Economic Progress

Having catalogued some of the activities that governments are not undertaking, what are they doing? One of the most important economic development strategies currently being pursued by state governments across the South is the promotion of tourism. This is important not only in the sense that tourism is growing rapidly in certain areas, but also in the sense that this industry has a deep effect on rural communities where it takes hold.

The Southeast Women's Employment Coalition is presently working with women in four Southern states who face the growth of tourism in their rural communities. Unfortunately, the stories they tell are not full of promise and hope, but of anxiety and fear. Along the coast of South Carolina, for example, women from predominantly black, low-income island communities are witnessing the destruction of their traditional means of survival: agriculture and fishing. Their story is typical.

Escalating property taxes and land values are forcing indigenous residents to give up their most important resource. Scarcely a week goes by without news of another resident having sold his or her land, often because of inability to pay the rising property taxes. As "prime waterfront property" increasingly changes hands, the indigenous residents find their access to traditional fishing areas cut off by new landowners who forbid trespassing. As a result of these trends, the indigenous community is rapidly being destroyed.

What is positive about this situation is the fact that people are organizing to challenge these trends. The low-income rural women with whom we have been working do not oppose tourism outright, but they understandably do not want it to destroy their own existing base of resources—their land, their culture, their community. They are attempting to pull their communities together around a common vision of economic

development that preserves their integrity as a community and protects their control over valuable resources, especially land.

If there is hope for the future of the rural South, it lies with women and men in community organizations like these. The South not only has the highest poverty rate in the United States, it also has the most unequal distribution of income. The problem is not simply one of disparity between the South and the rest of the United States, or between the rural and urban South, but *within* the South. It is between those who have a great deal and those who have almost nothing. It is unrealistic to expect government at any level to take on this fundamental inequality in a consistent, long-term fashion. Poverty will be reduced in the rural South in the same manner that denial of voting rights was reduced. It will come about when those who are rural and poor organize and declare "No More." Those who wish to serve the rural poor would do well to listen to the voices and support the efforts of those who are attempting to organize their communities to shape their own future—and particularly to the voices of rural women, who have been unheard and unseen for too long.

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Summaries and Recommendations

Quality of Life Assessment

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Papers provided some realistic assessments of opportunities for improved conditions in rural America. Some perspective is needed for challenges confronting both rural America and our nation at large. A logical approach seems to be one in which the U.S. is viewed as a small part of a larger global economy.

Many of our major industries — manufacturing, steel and textile — have lost their competitiveness in world markets. Additionally, recent evidence suggests that U.S. agriculture is also losing its competitiveness in international markets. If indeed U.S. agriculture ceases to be competitive in world markets, there is little chance for improved conditions in rural America. Why? History suggests that the problems of poverty, high unemployment, low educational attainment, and subsistence incomes that characterize rural America are ameliorated only by sustained economic growth and development in a major sector of the economy. Without foreign markets for U.S. agricultural products, it is unlikely that agriculture will achieve enough growth to positively impact the conditions of rural America. A viable alternative for change, of course, would involve nonagricultural industries expanding into rural America. Can this be done?

Charles Warren and Joseph Molnar vividly circumscribed characteristics of rural America: high rates of poverty and unemployment; large minority populations; and low levels of educational attainment. These characteristics are unattractive to manufacturing firms and therefore account for the sparsity of plants in rural areas. The presenters argue that rural areas are unlikely to attract manufacturing plants even if the aforementioned factors were not an anathema to firms because these areas lack the infrastructure to support such plants. Hence, inadequate infrastructure coupled with unattractive socioeconomic characteristics would suggest that manufacturing industries are unlikely to improve the conditions of rural America in the foreseeable future.

Ned Browning suggested that improved farm technology and especially biotechnology would lower farm production costs and expand farm output. These changes, while suggesting opportunities for improved conditions, may also have an adverse impact on growth and development. Increased farm productivity, in the absence of production

cutbacks, may serve to further depress farm prices and income. Increased productivity from biotechnology may require a substantial reduction in either the number of producers or the level of production for each producer.

Ann Thompson emphasized the great potentials available to U.S. agriculture because of improved and new trade relations with developing countries. Unfortunately, it appears that trade relations with developing countries offer only limited opportunities for U.S. agriculture. Many competing countries can produce agricultural products at a lower cost than the U.S. World population growth, as noted by Thompson, could expand significantly the demand for food if developing countries could earn sufficient incomes to generate an effective food demand. Under this scenario, increased food demand would stimulate U.S. agriculture and lead to positive spillover effects for rural America.

A basic premise that runs through all papers is that the prospect for positive change in rural America is dependent on many outside forces. Changes in location of firms, breakthroughs in biotechnology, growth in world food demand and increased competitiveness of U.S. agriculture in international markets could all have a positive impact on rural America.

None of lthe papers suggested ways in which rural America may independently achieve the growth and development that characterize other parts of America. Achieving a higher educational attainment level would appear to be an independent stimulant for rural America, but it is quite apparent that the educational infrastructure of rural America is substandard and unable to evolve to more acceptable standards in the absence of outside resources. One economic project that does seem feasible, however, is the production of specialty crops, primarily fruits and vegetables. Growing demands for fresh fruits and vegetables could enchance the incomes of rural Americans if sufficient quantities could be produced at reasonable production costs.

Changing Employment Patterns

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The three papers by Demissie, Johnson, and Faulkner work together to build a well-rounded picture of the employment changes taking place in the South.

Ejigou Demissie's paper focuses primarily on the changing employment patterns in Missouri agriculture. Much of the decline in opportunities for agricultural employment can be traced to the increased size and concentration of farms. Between 1964 and 1982, the number of farms declined much more than the amount of acres in farms. Off-farm employment and part-time farming increased between 1974 and 1982 in Missouri. Demissie concludes that this decline in farm employment and changes in the patterns of ownership has negatively affected rural areas.

Thomas Johnson's paper emphasized the changing employment patterns in the manufacturing and service sectors. He describes some of the structural forces leading to these changes. The demand for goods has fallen relative to the demand for services,

the productivity of goods-producing labor has risen relative to the productivity of service-producing labor; and improved communications infrastructures have contributed to increasingly "footloose" service industries. These forces, combined with increased foreign competition, have resulted in declining employment in manufacturing and increasing employment in the service sector. All this produces major implications of the changing relationship between the manufacturing and service sectors for the local community.

Finally, Janice Faulkner discussed how changes in agriculture, manufacturing, and services are altering employment patterns in the South. She argued that the "accelerating globablization of the nation's marketplace and expanding technological developments" have contributed to declines in agricultural and manufacturing employment and increases in service-related employment. She noted now the distinctive characteristics of the South have made the region especially vulnerable to these trends. Companies that relocated to the South during the 1970's were more likely to be from declining industries, rather than from high growth industries. In addition, those industries that the South depends on most for its employment—agriculture, textiles and apparel, lumber, wood and furniture—are those most affected by technological developments and foreign competition. Furthermore, the growing service sector frequently demands a better educated work force than is currently being displaced from agriculture and manufacturing jobs.

Three major themes run through these presentations. First, all emphasize the importance of the mix of industries in a local area. Faulkner notes that reliance on a single industry can be devastating for a local community. Demissie illustrates how the decline in agriculture has increased the importance of off-farm employment opportunities. Johnson argues that the changing character of service industries requires a re-definition of "basic" industries, to better estimate potential multiplier effects.

All papers draw attention to the importance of local ownership of farmland and businesses. Demissie claims that within the agricultural sector, income from small, independently-owned farms is more likely to be spent in the local community than is the income from large, corporately-owned farms. Johnson also suggests that the replacement of physical capital for labor in mining and manufacturing has had an adverse impact on rural areas by altering the geographic distribution of income. Unlike workers, investors may not be residents of the local community, and even if they are, they are likely to spend a smaller than average share of their income within the community.

Finally, and perhaps most importantly, all papers stress that these changing employment patterns result from major, long-term structural transformations in the national (and the international) economy. The declining opportunities for agricultural and manufacturing employment, and the increasing service-related employment opportunities are not simply the temporary results of short-lived economic aberrations or disruptions. We cannot "wait out" these changes, we cannot ignore them, nor can we apply short-term, "quick fix" solutions. We must seek new approaches to address the new conditions.

The solutions suggested in these papers tend to emphasize local responses. They include improving the educational and skill levels of the local labor force, providing more support for existing businesses instead of trying to attract industry from outside the area, and encouraging local entrepreneurs by making venture capital more readily available. While local development strategies clearly should be an integral part of any response to the changing employment situations in the South, national level responses should not be ignored.

National policies, whether designed to protect declining industries, encourage high-growth industries, or boost the overall economy, have significant local effects. Plants are opened or closed, workers are employed or laid-off, farms are bought or sold...all at the local level. Local effects, however, are not evenly distributed. The impact of national policies on rural and urban areas in the South will vary because of spatial differences in the industrial mix of employment and ownership of capital. Agricultural

and rural researchers and local leaders and developers must find ways to bring together information about the nature and extent of these local impacts and to communicate their findings to national policy-makers.

Success Stories: Demonstration Community Development Projects

Demonstration Community Development Projects

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The "success story" component was started in 1984 in honor of the late Dr. L. A. Potts, Dean of Agriculture at Tuskegee University. During his professional career, Dean Potts effectively utilized the Annual PAWC as a forum to accomplish three objectives: (1) articulate *success stories*; (2) promote the exchange of ideas on ways to fine-tune and transfer results to other communities; and (3) advocate the need for 1890 universities to be included in the USDA Annual Land-Grant Appropriations. Casual review of the 44-year history of the PAWC will reveal other contributions of this gentle public servant to rural America. His outreach leadership qualities are reflected in local, state, national and international programs designed to improve the quality of life for the less fortunate among us. Again this year the PAWC participants pay homage to our colleague and rededicate our lives to the humanitarian principles and ideals for which Dean Potts lived.

One PAWC session is used to recognize community-based organizations and individuals who are involved in activities (success stories) worthy of others to follow. The following activities were recognized by PAWC participants for improving the quality of life for rural Americans:

Alabama A&M University
A Small Farm Concept - Heifer Project International
Morris Farm Development Concept
Summer Education and Enrichment Program

University of Arkansas at Pine Bluff
Education for Parenting

Delaware State College
Clothing Construction Training
Toward a Balanced Budget
Youth Enrichment Program
Training in Financial Counseling
Gardening for the Chronically Ill

University of Georgia
Agribusiness Leadership

Langston University
Crops Suitable for Small Farms
Production of Mohair on Small Farms

North Carolina A&T University
Contents of a Successful Farm Production Menu

Southern University
Beginning Agriculture Youth Opportunity Unit (BAYOU)
Adaptability of Sweet Corn Hybrid Production

Tennessee State University
Teaming Up to Help Limited Resource Rural Families
Homecoming '86

Tuskegee University
Comprehensive Youth Services Program (CYSP)
Housing and Urban Development/Community Outreach
Lowndes County Concerned Citizens Group (LCCG)

Alabama A&M University
A Small Farm Concept - Heifer Project International

Heifer Project International, a philanthropic, private voluntary organization, over the past five years has provided assistance through the Cooperative Extension Program of Alabama A&M University. Since inception of the "Small and Part-time Farmers Project" a total of 279 high quality breeding animals: beef cattle, dairy goats and swine, have been distributed to 98 livestock producers in 12 counties of North Alabama. Most of the project recipients lacked the capital necessary to genetically upgrade their herds and their business operations were at risk. Besides placement of quality breeding stock on limited-resource farms, dissemination of relevant information on approved production practices have further enhanced project success.

In exchange for original animals provided to producers through an in-kind loan, offspring from the animals are returned to the program at an equivalent rate. Animals returned to the program are then placed on additional farms. This "Passing on the Gift" procedure ensures project expansion, with widespread impact potential for livestock producers.

Program Goals and Accomplishments:

— *To increase the net farm income of at least 432 project participants located in 12 North Alabama counties within 4 years.*

— *To have participants in the beef project produce 700 pound calves valued at $63.00 per cwt. for sale or home use within 12 to 18 months following initial distribution.*

— *To increase net returns of swine project participants by 15 percent for each sow producing 8 pigs or more per litter within 18 months following initial distribution.*

With the exception of farmer placement of dairy goats and swine in 1982, the majority of animals were distributed since 1984. To date, 77 producers originally received animals through HPI funds. The total value of the 278 animals provided to all producers is $112,582. Through the "Passing on the Gift" procedure, an additional 21 producers have benefitted by receiving high quality animals for herd improvement. Within the next two years this cumulative figure is likely to at least double since a large number of farmer-to-farmer distributions are anticipated.

Average profit gains by livestock producers for the current year are: beef cattle, $1,533, swine $2,952 and dairy goats, $50. In addition to increased profits, domestic use of milk from dairy goats and meat from beef cattle and swine have risen for many rural families. In some cases such benefits were not derived until the producer(s) participated in the program.

Added knowledge on key aspects of livestock breeding, disease prevention, management and nutrition has benefitted many producers. Meetings, seminars, tours, workshops, demonstration activities as well as mass media were effective methods used by 1890 Extension agents.

Strong community participation and leadership is another dimension of the project. In many of the 12 counties, the agents were assisted by volunteer community leaders. Such community action is an appropriate direction for the project to attain its broad goals and objectives.

Each year the number of new producers receiving livestock through the "Passing on the Gift" procedure should approximately correspond to the number of producers receiving original HPI animals. Although the actual number of producers receiving livestock is less than predicted, it is anticipated that an increase in distribution will occur within the next two years. A total of 98 producers, original and farmer-to-farmer program recipients, have benefitted from the project since 1982.

Morris Farm Development Concept

In 1984, a team of researchers and extension workers from Alabama A&M University conducted an informal survey of small farmers in 16 north Alabama counties. The objective of the survey was to evaluate current farming practices and the scope of new technology or intervention on an average small vegetable or field crop farm.

From a total of 35 farmers interviewed, three were selected based on their willingness to participate in this study. The three included a vegetable grower, crop farmer and

a crop-livestock producer. Through frequent visits and detailed discussions on their past, present, and future production plans, plans of intervention were developed for each grower. Experimental plots were established and/or adjustments were made in key areas of management to reflect improved agronomic and horticultural practices.

In 1986, based on on-farm trial results, a production package was prepared for each of these farmers. Mr. & Mrs. Otis Morris took the plans on production practices along with farm management and bookkeeping techniques very seriously. The principal production package interventions were to test soil in each field, apply right quantity of phosphorus and potash fertilizer just before or at the time of planting, plant the recommended variety on the right date of planting, split the application of nitrogen requirement of the crop, follow crop rotations, plant early maturing wheat on half of the farm and plant no-till soybeans in narrow rows or maintain mulch in conventionally planted soybeans and/or corn. Crops were to be harvested early with proper adjustments on the combine and the crop was to be marketed at a contracted price.

Mrs. Morris reported her farm income of $1,200 with an investment of $1,500 during the 1984 survey. In 1986 they are able to manage an income of $9,740 with an investment of $3,500. This is a net gain of $5,240 in annual income which keeps them smiling and able to continue in business as small farmers in Madison County, Alabama.

Summer Education and Enrichment Program

Traditionally, the 4-H Club program has provided educational opportunities to millions of young people. Opportunities for youth to develop skills, character, leadership abilities, self-esteem, values, and a positive self-concept have always been the mission of 4-H. The 4-H Club Summer Education and Enrichment Program directed by Alabama A&M University is one example of a unique blending of traditional and non-traditional projects for youth.

The summer education and enrichment program, which is referred to as 4-H SEE, is an annual three-day program held on the campus at Alabama A&M University. From its beginning in 1979, the program has involved, encouraged, and motivated more than 1,000 low-income young persons in organized 4-H Club programs and activities. These activities assisted the participants in self-improvement and selected skill development.

The 1986 4-H SEE Program involved more than 230 young persons and their adult leaders from 25 or more communities in 12 countries in North Alabama.

Specific program objectives included:

— *To provide the opportunity for youth to acquire knowledge, develop life skills, and form positive attitudes for successful home and family living.*
— *To encourage low-income youth including the handicapped to participate in 4-H Club projects.*
— *To assist older youth in exploring and evaluating job opportunities and encourage them to pursue college training and careers in agriculture, home economics, and natural resources.*
— *To assist youth in understanding the value of arts and humanity experiences in the development of self and others.*

The 4-H Club College Bound Program was introduced as part of the 4-H SEE Program. More than 75 young persons, 15-19 years of age, gained knowledge and insight of college preparatory skills. The goal was to provide a legacy of educational achievements applicable to society's demand for highly educated young men and women.

Thirty percent of the adults, over 25 in Madison County and surrounding counties of the program area, do not graduate from high school. Of the high school graduates, only 21 percent graduate from college. The median family income of families below poverty level is about $6,000.00 a year. The College Bound Program has great potentials for instilling in young people the value of a college education. Through this effort, youth and their families can improve their level of living and change the educational statistics. Other impacts of lthe program:

— *More than 35 youth learned how to start a home-based business in sessions conducted by the Small Business Development Center at Alabama A&M University.*
— *More than 80 youth learned the value of art appreciation through selected experiences in pottery, silk screen printing, poster art (collage and hand drawing), and needle work.*
— *Through expressive arts, young persons made personal discoveries about themselves and identified ways to improve personal traits. Selected experiences involved more than 35 youth in speech, drama, etiquette, and grooming.*
— *Home Economics programs assisted at least 65 youth in learning to sew, make jelly, microwave cooking and entertaining.*
— *Agriculture programs taught youth how to earn money with a lawn care service.*
— *The small animal program taught more than 30 youth how to conduct pet related projects.*

All youth enrolled in at least two classes and attended selected seminars on Drug Awareness, How to Take Interviews, and Assertiveness Training. All classes and workshops contributed to the development of life skills. The 4-H SEE Program coupled with other 4-H Club activities continues to be a major force in the educational and personal development of young people.

University of Arkansas at Pine Bluff
Education for Parenting

Preventing adolescent pregnancy is the goal of an Arkansas youth program. The Extension Service is working with public schools, parents and teens throughout the state on a program for secondary students. It focuses on understanding moral values, decision-making, goal-setting and developing guidelines for personal conduct. The curriculum includes a 3-year short course, "Education for Parenting," a home-study course and a bi-monthly newsletter series. More than 21,000 students have completed the course, with male participants outnumbering females.

Using a questionnaire six months after the classes were completed, a random sample of 400 students gave these perceptions of themselves:

— *61 percent of the students are communicating better with their parents.*
— *More than 80 percent have improved self-images.*
— *More than half (58 percent) indicated they know wholesome ways of fulfilling emotional needs.*
— *72 percent are making better decisions by using the decision making process, and*
— *68 percent indicated they are practicing self-control.*

In 1985, 12 of 13 pilot counties showed a decline in the birth rate among teenagers. The greatest decline was from 36.4 percent in 1977 to 22.4 percent in 1985. The program is continuing and will be monitored to determine the degree of further declines.

Delaware State College

Clothing Construction Training

The Master Teachers' Clothing Construction Class was developed as a method to train competent teachers to meet requests of various populations throughout the county. A pilot class was tested on five young homemakers in Kent County. They completed the class and helped make refinements of the class materials.

Twenty persons registered for the second course. Of the twenty who registered, all had strong backgrounds in clothing construction and several had good backgrounds in instruction. Three were teachers, one did alterations for a cleaner, three worked in fabric stores, one was a Girl Scout Troop leader, one made draperies and cushions, and one worked as a nurse's aide. Eleven of the participants registered in Sussex County completed the course.

The participants were taught basic and time-saving skills. They were given opportunities throughout the training to give demonstrations to familiarize themselves with speaking in front of audiences and to reinforce the need for organization. One requirement for the class was to teach one class in the community. In Kent County, three of the five trained, team-taught a four-week class at their local church. A total of twelve persons participated.

Of the eleven trained in Sussex County, one organized a class at her church that reached sixteen persons; one taught an adult education class that reached fifteen. Another taught a Girl Scout Troop of twenty-one, one taught a home furnishing class of eleven, and one taught a time-saving class of twenty in a clothing store. Eight volunteers fulfilled their obligations of the sixteen that completed the training. In total, they reached ninety-five people.

Participants indicated that they were able to supplement their income using the skills learned in the class. One indicated that she has a bridal gown business that has enabled her to purchase a new machine costing around $800.00. Others have been offered demonstrator jobs in department stores due to their extensive knowledge and skills after having received the training in clothing construction.

Toward a Balanced Budget

Success in the area of family and personal financial management can be difficult to measure because of the many internal and external complications which the individual or family may be experiencing. Although more people were reached through financial counseling in the Delaware project than are mentioned here, their progress was either unmeasurable or unobtainable. However, here is a brief summary of successes and failures of 15 individuals participating in financial counseling whose progress could be evaluated:

— *Six negotiated reduced payments with creditors.*
— *Two are meeting all monthly payments on time.*
— *Three reduced debt load by eliminating services (like cable TV, telephone, etc.)*
— *Two paid off some debts to avoid legal action.*
— *Three brought delinquent bills up to date.*

Most of the persons who were counseled were under stress and had little information to enable them to alter their financial situation. A case example:

Earl, age 65, retired from a $15.00 an hour job and he and his wife moved from New Jersey to Delaware because they felt living expenses would be cheaper. The couple

was able to manage until winter arrived bringing with it high heating bills along with other emergencies such as refrigerator, television, and car repairs.

Creditors hounded the couple continuously. One creditor from the bank even requested that the couple send three post-dated checks. A legal services agency put Helen in touch with the Extension Home Economist at Delaware State.

After a visit, the home economist took a spending analysis, and helped the couple to develop a spending plan. They called their creditors and were able to negotiate reduced payments with three of them. The bank employee who requested submission of post-dated checks was dismissed after his tactics were reported to the manager.

The couple's crisis was further eased when Earl's part-time job called him back, and Helen also found a part-time job. Helen also sold her diamond ring to get money to pay delinqunet debts. She is no longer working because her hours were reduced to three a day which was not worth her while since Earl had to leave his job to take her to and from work. The couple is now able to pay all bills, thanks to the financial counseling.

Youth Enrichment Program

The Youth Enrichment Program is a week long program conducted annually on the Delaware State campus. The program is a joint effort between the College and ARS-USDA. The program consists of two segments—Career Enrichment and Weekend Enrichment.

The career program is designed to expose high school students to the diverse opportunities existing in various science and non-science career fields with emphasis on those related to agriculture and natural resources. It is also aimed at orienting youth to college life and varied educational, social, cultural and recreational activities which will improve youth development. High school participants are identified through guidance counselors, science and vocational agricultural teachers, alumni and other friends of the college. Students recommended and selected for the program are usually those interested in a science career and have exhibited the potential to continue their education beyond the high school and, perhaps, the baccalaureate level. Participants in the program have come from three states and the District of Columbia.

Participants in the weekend program are selected from communities throughout Delaware. Priority is given to 4-H age youths (9-19), who have an interest in ongoing extension youth programs. Since the program's inception in 1982, 77 young people have participated. Some of those have participated more than once. Twenty-nine of the participants remain in high school, and eighty percent of those students have expressed an intent to pursue a career in agriculture or at least showed an interest because of participation in the program.

Sixty percent of those who have graduated from high school have enrolled in a college or university. Thirty-eight percent of those attending a college or university have matriculated at Delaware State College. Sixty-two percent of those attending college have enrolled in agriculture, natural resources or a related science. A total of 744 have taken part in the weekend program since 1982. Ninety percent have participated in the program two or more years.

The program has training in water safety and instructional swimming — (unlike their urban counterparts, many of these rural young people do not have the facilities nor instructors to learn skilled swimming); Arts and crafts - A program designed to teach the students to make useable items utilizing materials which may be secured

from hobby stores; athletic games — which teach team participation and abiding by rules.

Other classes include drug abuse, first aid, fire safety, peer group relations, communication skills, modern dance and demonstrations which have led to recruitment of participants in community marching and martial arts groups.

Perhaps more important is the desire of those participating in the Weekend Program to participate in the Career Program when they become eligible. This has begun to become more evident as more students who participated in the Weekend Program in its inception years become eligible to participate in the Career Program.

The program is conducted by a Home Economics Agent and a Program Aide.

Training in Financial Counseling

Increasing requests for financial counseling and a survey conducted by the United Way of Delaware indicated a need for increasing the available resources to reduce financial stress in families. New Castle County home economists adapted training materials prepared by the state financial management specialist. These were used to train volunteers to help families develop financial management skills.

In 1985, the first class was held for training in realistic spending and debt repayment plans. Volunteers successfully completing the 15 hour course are expected to work with four families within a year or be involved in some other aspect of the program. Ten community volunteers and eleven professionals from various social service agencies enrolled. For the professionals, the course provided them with the skills to do budget counseling as part of their current job responsibilities. Since that time, home economists have trained another group of 20 community volunteers and a social service professional. Training manuals for the volunteers were purchased with a grant from the United Way of Delaware.

Currently, 26 of the community volunteers are involved in some facet of the program; counseling families, program record keeping, or telephone contacts. Within this program year, the home economists have worked with 53 families. The first of the volunteers was assigned to a family in March. Since that time, 18 families have been assisted by volunteers.

The Division of State Service Centers requested a training program for personnel and volunteers working with families requesting public assistance funds. A four-session, twelve-hour class was designed. The fourteen trained personnel will begin their work with families this fall with the assistance of the four trained volunteers.

Highlights of progress made in four families:

— *Family with no prior bill paying system developed a record keeping method as a means of planning for monthly living expenses and bill payments.*
— *A woman paid all creditors and is now working to develop new financial goals.*
— *A family who was behind on their trailer rent and household bills, is now current on their expenses and has established a savings plan.*

— *A family in reflecting on their situation realized "that this fall is the first time in many years that we have not been behind in our mortgage payment." They are also current on their major utility bills and have reduced their credit card bills considerably.*

Gardening for the Chronically Ill

A new project to provide gardening skills has been developed for the chronically ill at Smyrna, Delaware. Planned for patients who had a rural background or missed growing a garden, it offered a new outlook. An alternative to conventional gardening was required since most of the patients were confined to wheelchairs and/or had physical limitations.

Extension staff planned and assembled a garden with wheelchair accessibility utilizing raised beds. A class in the local vocational and technical school prepared the plans. Used railroad ties for the beds were collected from a railroad repair operation while salt treated lumber and other materials were purchased. During construction of the project, patients kept a keen eye and offered timely suggestions on improving accessibility. Some patients had been avid gardeners in younger years and cherished the idea of being able to dig into the earth once again.

Ms. Rita M. Golden, Director-Diversional Therapy, provided the following assessment: *"The project has been both worthwhile and successful. It has become the focal point of the hospital grounds and has received more interest than we ever anticipated. The Nature Club members and other patients have enjoyed caring for the plants, weeding, and best of all, harvesting the vegetables. With some assistance, patients who have not been able to cook in years are having fun cleaning, cooking, and eating their own vegetables."*

University of Georgia

Agribusiness Leadership

A county of 32,000 in northwest Georgia is economically dependent on a large number of textile mills and an agriculture based upon beef cattle and poultry. The county is located on the I-75 growth corridor between Atlanta and Chattanooga. It is the only non-metro county along the route. The Chamber of Commerce was totally devoid of any program focus on agriculture or support for its possible economic expansion opportunities. Several issues in the community, especially a proposal for a master land use plan, put agriculture and Chamber people on opposite sides.

The Gordon County Extension Service and the local Chamber of Commerce jointly sponsored a "Socioeconomic Perspective of Gordon County". This presented a wide variety of information on the county and its people and economy. A series of follow-up meetings provided opportunities to develop economic development strategies to expand agricultural enterprises and attract new business to the county.

The 1986 Chamber program is devoted to agribusiness development. Expanded farm-city recognition programs were initiated in the community. County Extension Agents presented the agricultural and economic situation to multi-county groups including the Area Planning and Development Commission.

A market strategy analysis to retain and expand business potential was completed and presented to a $2 million dairy manufacturer/distributor. The strategic plan is to increase local sales, develop a product reputation, and to increase profit and growth. An agribusiness committee was added to the chamber's overall program. The agribusiness

committee drafted a land use plan that was supported by both agricultural interests and the Chamber.

Use of factual, well-presented data can change attitudes and perceptions. Presentations established credibility to Extension as knowledgeable in economic development trends and strategies. Action brought diverse groups together to work on common goals. A 12-week leadership program will be presented in the county as a follow-up in economic development and community understanding.

Langston University

Crops Suitable for Small Farms

Small farmers are often limited by technologies inappropriate to their capital, labor resources and management abilities. There may be a need to redesign or adapt farming systems to accommodate small farms. One study concluded that public investment in technical assistance programs was more likely to yield improvement in economic welfare than direct aid. There is apparently no optimal organization of enterprises for all farms in a given area. With basic resource situations and enterprise combinations, farm operators can adapt the information to suit their individual situations.

Vegetable and fruit varieties are currently being tested at Langston University to determine production in central Oklahoma. The sandy-clay soil and rainfall in the central region are different from conditions in other parts of the state. Data obtained from the trials will be used to recommend specific varieties for regions with similar soil and climatic conditions.

Results of the trials show good potentials for fruit and vegetable crops in central Oklahoma. The trend for consumption of fresh vegetables and fruit is on the increase and the demand for fresh produce will continue to be strong. With uncontrollable weather conditions, limited marketing outlets, high operating costs, depressed prices and limited resources, many of the small and part-time farmers are changing to high volume/commerical vegetable and fruit production. These crops have proven to be economical and practical for small or part-time growers. Vegetable and fruit varieties were tested to determine viability and production for the local climate and soil conditions. Yield was adequate for most varieties but some dwarf varieties would only be suited for urban gardens or small plots. The smaller vegetables and dwarf plants adapt themselves for small families.

For the small or part-time farmers, vegetables may be a source of extra income while perennial crops are being developed. However, markets for these vegetables should be established before large acreages are planted.

Strawberries and thornless blackberries also appear to have a future for the small farmer. U-PIK marketing is available and yields are sufficient to allow the grower to make a profit. Maximum production will not occur until the second or third year.

The data from the Langston trials will be utilized to aid small farmers in the selection of vegetable and fruit varieties for cropping systems. More varieties will be tested to determine those best suited for Central Oklahoma soil and climate. Other experiments are needed to determine optimum water and fertilizer usage of varieties tested.

Production of Mohair on Small Farms

The vast majority of U.S. mohair is produced in Texas with smaller amounts produced in New Mexico, Arizona, Oklahoma, Michigan, and Kansas. Worldwide, the leading

countries are South Africa, Turkey and Argentina with South Africa producing well over half of the mohair moving to world markets.

Informal estimates indicate there are 60-80 Oklahoma owners of Angoras located primarily in the drier areas of the state. Oklahoma Agnora flocks range from 100 to over 2,000 head with an average of perhaps 300 head. Estimates of 20,000 to 22,000 head for the state are made by industry leaders.

The annual yield of mohair per goat is dependent upon age, size, and sex, genetic quality, nutrition, disease incidence and other aspects of management. Spring-born kids in Texas typically clip about 2-2.5 lbs. in the fall and about 3.0 lbs. the following spring. Yearlings clipped semiannually at 18 and 24 months of age may average 7-9 lbs. for the year. Does over two years of age may average 10 lbs. while whethers and bucks may yield 12-15 pounds.

U.S. mohair production is seasonal, shearing commonly occurring in late winter and late summer in Texas and in March and August in Oklahoma.

Prices received by the producer for clip reflects the current supply-demand situation. U.S. prices, heavily influenced by the prevailing South African mohair prices, vary widely. In 1985 the average U.S. mohair market price was $3.45 per lb.; currently it is ranging to a dollar lower.

A number of constraints are present for increasing mohair production outside the traditional areas.

— *there is a lack of knowledge of the industry; marketing channels, pricing mechanisms, nutritional needs, disease control, pasture management, animal care, etc. Beef cattlemen and sheep farmers in the Southeast simply have no familiarity with Angoras and not much more with dairy and/or meat goats.*

— *there is the problem of pooling of clips and their costly shipment to Texas warehouses, or, alternatively, establishing a "local" warehouse with enough volume to attract buyers.*

— *predators may cause substantial losses of young goats and thus reduced sales of mohair and replacement stock.*

— *the cost of making fences goat-proof is substantial; however, economical electric fences have been used effectively where topography permits; adequate "right-of-way" is a must.*

— *certain types of brushy pastures may cause loss of mohair and even loss of animals by entanglement while also encouraging a high content of "vegetable matter" in the mohair, thus leading to price discounts.*

— *a sustained parasite control program would be a necessity thus adding to the expense*

— *financing of Angora enterprise encounters extreme skepticism from lending agencies, largely because of unfamiliarity with these animals.*

Constraints to production are amenable to solution. Present marketing constraints in the southeast are largely due to higher costs for shearing the flock and for transportation of mohair to distant warehouses; lower grading (and thus lower prices).

On the other hand, forage available for Angora grazing could produce above average yields of mohair per head and per acre, thus giving southeastern producers considerable comparative advantage. Mohair production may offer an alternative for a limited number of farmers in the South.

North Carolina A&T University

Contents of a Successful Farm Production Menu

Mallie Hodge of Franklin County, NC, is growing cantaloupes that may bring a return of as much as $1,000 per ten rows of produce. He may add blueberries, blackberries and asparagus. William Burgess, once a tobacco farmer, now has a good weekly income from year-round vegetable crops on five acres. Ethiman Spivey sells flower arrangements and hanging baskets he makes from native cypress trees that grow in swampland on his farm property. A Warren County farmer sells transplants grown in a homemade greenhouse. In Wautauga County, farmers are supplementing their incomes with Christmas trees and landscaping ornamentals.

These 'specialty' or 'alternative crops'—those not being produced by large-scale agriculture—are one way a farmer can diversify in order to increase income when prices for traditional crops are low. Market prices for traditional crops such as grain, tobacco, corn and soybeans are the result of staggering overproduction. If there is a market, a significantly greater return is possible on an alternative crop.

Small-scale farmers who are members of the A&T Farm Opportunities Program are introduced to the technology and methods that are critical to success in growing alternative crops. Some 650 farmers in 18 North Carolina counties are trying new enterprises and are realizing much success. This success is due in part to Extension Service paraprofessionals known as "agricultural technicians" who work one-on-one with small-scale farmers helping them adapt new technology. Eastern farmers have been quite successful with the soft-shell crab business. Western farmers are growing Christmas trees, native ornamentals, ginseng, and shitake mushrooms. Piedmont farmers who traditionally grow tobacco are trying year-round horticultural crops of varying varieties. This is usually a major step for the majority of small-scale farmers who have not been exposed previously to technological innovations.

One such demonstration project is being carried out currently with Mallie Hodge. With special demonstration funds, fertilizers, plants and the black plastic mulch Hodge needed for a new vegetable enterprise were purchased. A summer technician was hired to record yield data, pick crops, run the irrigation pump and filter loaned by the A&T Extension program, take produce to the stores and keep thorough records of everything so that yields could be compared. Hodge was responsible for preparing the field, doing the planting and maintenance labor. He agreed to follow all recommended practices.

Hodge has been harvesting and marketing his vegetables for several months. He has observed the volume and quality of vegetables that can be grown with proper methods. He plans to expand vegetable production next year. He has enjoyed modest success. Extension staff point out that alternate crops are limited market crops. There are not one, two or three crops that can be recommended for everyone. Diversification of enterprise through alternative crops is a way for the small-scale farmer with initiative to increase income.

Southern University

Beginning Agriculture Youth Opportunity Unit (BAYOU)

Southern University's College of Agriculture and Home Economics is continually seeking new and innovative ways of attracting quality students to the fields of agriculture and home economics. The BAYOU program, whose acronym stands for Beginning Agriculture Youth Opportunity Unit, was designed to offer academically-talented high school juniors and seniors an opportunity to increase their levels of knowledge of the

science of agriculture and related fields, and ultimately, to influence their career selection processes.

Even though the BAYOU program is new and unique to Southern University the concept is based on the USDA's apprenticeship program. The initial BAYOU session was held June 15 - August 8, 1986. The first session drew nearly 150 applicants, from which 16 were selected. Eleven were housed on the university campus, and the remainder lived at home in the Baton Rouge area. Each earned $800 for his/her participation.

Participants were exposed to the various multi-disciplinary fields of agricultural and home economics sciences. Activities included lectures, laboratory sessions, field trips, and individual research. The program allowed students the opportunity to learn about the disciplines and research programs of the University, and also to become familiar with the programs of public and private agricultural agencies. A significant feature of the program was the interaction of high school students with college students, faculty, staff, and federal personnel and alumni—all positive role models. The majority held agriculture-related positions, and many had agricultural educations and/or experiences.

Young people who participated in the session reported that they had been positively influenced, and admitted that their outlook and opinion of agriculture and home economics had changed. Many indicated a serious interest in pursuing the study of agriculture and/or home economics in college, with the express desire to develop a rewarding career in the field.

The BAYOU program, and its apparent success, met its mission. It dispelled the myth that agriculture is just farming and home economics is just cooking and sewing. The youth participants have become the messengers and the leaders in behalf of agriculture and home economics, as these fields compete with other academic areas for superior students.

Adaptability of Sweet Corn Hybrid Production

Sweet corn is one of the important leading crops in the large home garden as well as in fields or commercial canning and freezing industry. It can provide satisfactory financial returns as it fits well into many summer rotation programs and occupies the land for a shorter time than certain other crops. More Americans are turning to home gardening and fresh corn-on-the-cob is one of America's favorite foods. The demand for sweet corn will almost certainly increase in the future.

Sweet corn has a great potential in Louisiana since it can be planted from about the middle of February in the south to the middle of July in northern areas of the state. It can provide a continuous supply for home consumption, local markets and to markets in northern states. Considering the economic importance of sweet corn as a cash and export crop, an investigation was designed to obtain information on the performance of sweet corn hybrids in terms of adaptability under south Louisiana climatic conditions.

Research was done at Southern University during the 1983 to 1985 growing seasons to obtain an unbiased comparison of entered hybrids for their yield and agronomic performance. Field tests containing 60 sweet corn commercial and experimental hybrids were planted in three replications in a triple rectangular lattice and all data were taken as uniformly as possible. The mean number of days to maturity of hybrids in both performance tests ranged from 68 to 83 days. The average yields from the tests ranged from 1,685 to 2,691 marketable ears in dozens per hectare.

Results obtained from these studies are not yet conclusive and will be repeated for two or more years. High yielding hybrids which show stable performance for their adaptability and resistance to corn earworm infestation under south Louisiana climatic conditions will offer great potential as an alternate crop in the state.

Tennessee State University

Teaming Up to Help Limited Resource Rural Families - Homecoming '86

Governor Lamar Alexander designated the year 1986 as "Tennessee Homecoming '86"...a time to return to communities across the state and see what has made them good places to live. The Free Hill Community was selected as one of the important sites in Tennessee to visit during Homecoming '86. Located in Clay County, an Appalachian area near the Kentucky border, Free Hill is a community with a unique history. Its origins date prior to the Civil War.

Oral historians report that before the Civil War, a white woman and her mulatto children came to the area from Virginia or North Carolina and the children settled in the Free Hill Community. Another version is that the community was founded by slaves belonging to a woman who came to the area, bought land for her slaves and returned home. The area is rich in historical legend.

Local agencies teamed up for further study for the community. The results of the study and personal observations indicated the following problems and needs: 1) Jobs and job training; 2) New homes and home improvements; 3) Home beautification; 4) Adequate water supply; 5) An educational and recreational center; 6) Church and gravesite improvements; 7) Homemaking skills; 8) Road improvement; 9) Home economics skills in nutrition, clothing, etc.

A group action plan was developed and other USDA agencies and organizations within Clay County were asked for input. Improvements made in the community resulting from the agencies, organizations and the people working together have been almost unbelievable. The road leading to and through the community was resurfaced. The old school building was leased from the County Board of Education, remodeled and became an active Community Center. Classes in nutrition, clothing, home furnishing, and other topics are being taught. Quilt making and other craft items are being made by local people.

In addition, recreational programs for all age groups have been developed. New homes were built and old ones were remodeled. A second eating place was opened. Most of the homes, the church and gravesites were beautified. New home-based businesses were established. One widely publicized business in the community is marble making. These marbles are custom flint marbles, crafted by one of the residents in the community (available for $5 or $10 each). The regular marble games and tournaments are a popular community recreation.

Another important improvement was the change from well and spring water as a main water supply to running water in the homes. But the most important improvement in the community was the acquisition of knowledge and skills and change in attitudes and aspirations by local people. They were willing to put into practice methods, techniques and skills which had been learned. The end product was a new way of life.

Homecoming '86 has emphasized researching family roots to discover what is special. "Community by community, we are researching our heritage to plan for the future and developing directions and goals to preserve our traditions." Community improvement programs have been effective ways to work with limited resource rural or urban families.

Four words: coordinationa, cooperation, communication and participation characterize effective community development.

Tuskegee University

Comprehensive Youth Services Program (CYSP)

In January 1986, representatives from Fort Deposit, Alabama contacted Tuskegee's Human Resources Development Center Director for assistance in establishing a non-profit youth services organization (CYSP).

Based on the demographics and socio-economic index of Lowndes County, in which Fort Deposit is located, the proposed organization was designed by HRDC to: (1) provide youth with the opportunity to participate in wholesome recreational and physical fitness exercises when they are not in school or carrying out home chores; (2) provide an effective effort to help combat juvenile delinquency; (3) assist community youth in developing leadership and citizenship skills and to encourage them to become active in community/resource development; (4) expose community youth to planned workshops and seminars dealing with human awareness, positive image building, substance abuse, peer pressures, and strategies for dealing with social problems; (5) improve youth's readiness for entry into the "world of work" through reinforcement of academic and job-related skills, and an awareness of his/her potential; and (6) improve the quality of life of adults and senior citizens by involving them in program implementation.

With ongoing services from HRDC, the community's CYSP formally began operating in August 1986. Since that time, some 118 youngsters ages 6-18 have participated in its initial program. Over 350 area youth have become actively involved in other activities. The CYSP staff includes a director, recreation specialist, secretary/bookkeeper and instructors. Staff efforts are supplemented by some 30 adult volunteers who serve as coaches, arts and crafts instructors, tutors, etc. The city has indicated that CYSP will be included in its FY '87 budget. Discussion is also under way to secure other sources of funds to support the program, including State Law Enforcement Planning Division and the Alabama Governor's Office.

Housing and Urban Development/Community Outreach

The Home Classic Show is a one-day culminating event linked to the outreach thrust of earlier community-based workshops at Tuskegee University. During 1986, the annual show was implemented under seven broad headings relating to home construction and improvements in the quality of life for rural people. These areas were: (1) Property selection, (2) Home design, specifications and costs, (3) Financing, (4) Legal counseling and insurance, (5) Accessories needed to furnish and renovate the home, (6) Energy conservation, and (7) A model homes display.

Specialists from relevant units at the University and city/county government served as resource persons. Some twenty-five specialists provided participants with one-on-one information on all facets of home ownership. In addition, the over 200 participants were provided the opportunity to visit and observe innovative ideas incorporated in model, mobile and modular homes during the show. Mrs. Harriet Macklin, Rural Development Specialist with the Housing Assistance Council in Atlanta, Georgia, was the show's keynote speaker. Other participants in the formal program included officials and representatives from county and city governments, community-based organizations, Tuskegee University and the HUD Regional Office. A total of 24 families made application to purchase mobile or modular homes, while seven began the process of purchasing

private dwellings in the target communities. These activities also provided a forum for Tuskegee University to contact a significant segment of its outreach clientele in Alabama in particular and the United States in general.

Lowndes County Concerned Citizens Group and Proposed County-Wide Comprehensive Youth Center

Representing all sectors of Lowndes County, 150 members have been involved in activities designed to improve the quality of life for the citizens. During the past year, the group has concentrated efforts on youth activities designed to reduce the incidences of delinquency, pregnancy, drug abuse and unemployment. Individually and collectively, these social factors adversely impact the quality of life in the county. The LCCG placed high priority on organizing community-based recreational groups that offered opportunities for youth to participate in wholesome competition in the area of sports (baseball, footbaal, tennis, etc.). While all sports acitivities were highly accepted by the community and youth, the LCCG recognized the need to expand and sharpen the focus of the overall program to involve more county residents.

The proposed Comprehensive Youth Center is the result of meetings and discussions by concerned citizens in the county including recognized adult and youth leaders. The major objective of the proposed Center is to contribute significantly to the quality of life in Lowndes County. The Center will be involved with sharing information and providing tutorial services to both youth and adults. Interested citizens in the community will be encouraged to work as tutors to reinforce learning skills and opportunities for youth and adult employment.

The Center will have a director and secretary who will be responsible for the day-to-day operations. In addition, there will be an advisory committee consisting of youth, adults, and county-elected officials. Representatives from the business sector, County Crime Prevention Program and Tuskegee University Human Resources Development Center will provide technical assistance in relevant program areas.

It is envisioned that the advisory committee will work closely with the Center staff to assure that community resources are well utilized. The committee will assist the Center director in planning for the use of the county park in community-related activities. The park will be used for recreation and new jobs and employment opportunities will be created. A plan will be developed and implemented to provide year-round supervised recreation for youth (10-15 years) in all communities. In addition to the recreational program, the Center will offer activities designed to reduce teenage pregnancy, and alcohol and drug consumption by youth of the county. A referral service will be utilized to keep the general public informed of available resources and services.

The relatively high rate of public assistance received by families in the county is partially attributed to the area's socioeconomic profile. Study findings reveal that children of adolescent parents receive a disproportionate share of public assistance payments in the county. Activities will be developed and implemented to reduce and prevent teenage pregnancy and reduce public assistance payments.

The major focus of the alcohol and drug component will be prevention. Major efforts will be made to reduce the situation(s) and/or environmental factors that result in the use of recreational drugs, including marijuana, alcohol, heroin, cocaine, crack, and other toxic substances.

Announcement and Information on the 45th Professional Agricultural Workers Conference Tuskegee University December 6-8, 1987

Announcement and Information

On the 45th Professional Agricultural Workers Conference, Tuskegee University, December 6-8, 1987

Theme: "Keys to Rural Community Development in the Southeastern United States"

Planning Committee

Thomas T. Williams, Chairman, Tuskegee University
Kanand Brooks, Vice Chairman, Tuskegee University

McKinley Mayes
Coordinator 1890 Programs
Cooperative State Research Service, USDA

Esther E. Glover, Chairperson
Council of 1890 Home Economics Administrators
Alcorn State University

Fred Harrison, Jr., Chairman
Association of Extension Administrators
Fort Valley State College

James W. Shuford, Chairman
Association of Research Directors and Resident Instruction
Alabama A&M University

Brief History

The PAWC began at Tuskegee University in 1942. The conference serves as a forum where participants review and discuss relevant issues designed to improve the quality of life for people in the South and all of rural America. Over the years, significant additions have been incorporated into the PAWC program. In 1980, a Mini-Conference Liaison Officer was appointed by the chief administrative officer at each of the 1890 land-grant universities. In 1981, these universities appointed the George Washington Carver Public Service Hall of Fame representative. The liaison officers work closely with local and state resource persons to articulate the PAWC objectives and expand

the conference activities. The Hall of Fame representatives publicize and nominate candidates for the annual award.

Beginning in 1981, the U.S. Soil Conservation Service assigned a representative to the Tuskegee University Human Resources Development Center to assist with planning and implementing the PAWC. The major responsibilities of this individual (Assistant PAWC Chairman) are to: (1) help organize and implement a series of mini-conferences in states where 1890 land-grant universities are located; (2) work with state and local resource persons to design and implement a strategy to realize the maximum impact from the conference; (3) serve as the link between the PAWC planning committee and 1890 land-grant universities; (4) work closely with the George Washington Carver Hall of Fame representative to assure that selection criteria are followed; and (5) assist with the PAWC program agenda.

The 45th Annual Professional Agricultural Workers Conference (PAWC) will be held at Tuskegee University, December 6-8, 1987. Most conference sessions will take place in the new Chappie James Building. The theme of the 1987 PAWC is *"Keys to Rural Cummunity Development in the Southeastern United States."* Sessions will be organized around four topics in support of the general theme: (1) Leadership at state and local levels; (2) Citizen participation in program planning; (3) Pursuit of quality education; and (4) Business approach to the survival of small family farms.

Call for Papers

Contributed Papers (Peer Review)

Papers are invited on each of the four topics listed above. Peer review will be used to select the best and most appropriate papers for presentation at the conference. Author(s) of the papers selected will have 20 minutes to make presentations at the conference. Papers presented at the conference will be published in the proceedings. It is anticipated that a total of 12 papers (3 for each of the 4 topics) will be selected as contributed papers. *Abstracts are due by August 15, 1987* and selections will be announced by August 25, 1987. (See Contributed Papers Abstract)

Contributed Papers (Non-Review)

These are papers that were not selected by the peer review as contributed papers. It is anticipated that eight papers (2 for each of the 4 topics) will be selected as "Non-Peer Review" papers. Author(s) of these papers will have 15 minutes for presentations at the PAWC. The non-review contributed papers will be announced by *August 25, 1987.* (Use the Contributed Papers Abstract.) Abstracts of these papers will be published in the conference proceedings.

"Success Story" Reports

Campus liaisons at the 1890 land-grant institutions and Tuskegee University are requested to select community organizations that have made significant contributions to the quality of life for rural people. It is suggested that priority be given to community "Success Stories" that mirror the conference theme of Leadership, Education, Citizen Participation or Business Approach to the Survival of Small Farmers. The "Success Stories" are intended to provide conference participants with the opportunity to discuss new ideas and benefit from demonstrated community development projects that have proven successful. In addition to the organization or institution receiving a certificate for a job well done, an abstract of each "Success Story" will also be published in the proceedings. (Complete and return the L. A. Potts "Success Story" form by *September 30, 1987.*)

George Washington Carver Public Service Hall of Fame Award

Each year, special recognition is given to an individual whose work mirrors the public service philosophy of Dr. Carver: "...to be of the greatest good to the greatest number of people." The award is limited to individuals (a) employed by and/or located at the 1890 land-grant institutions and Tuskegee University; and (b) employed with public and private organizations serving the clientele of these institutions. At each university, an award committee representative will be responsible for identifying one candidate for the award within the state where his/her university is located. Criteria for selection of nominees for the award are as follows:

— A demonstrated record of public service that has advanced the quality of life for the rural clientele served by the 1890 land-grant institutions and Tuskegee University.
— Served at least five years in his/her profession.
— Contributed to public service in the form of publications, action-oriented research, and meetings — with the focus on solutions to constraints facing outreach clientele of the land-grant universities.
— Recognized by his/her peer group, the university and clientele for quality of services rendered.

The local campus awards committee will submit the completed "Fact Sheet" on the nominee, together with a 3″ x 5″ black and white facial photograph of the nominee by *October 15, 1987*. A five-member national selection committee (representing individuals from government, foundations, and the private sector) will subsequently: (a) review the Fact Sheets, (b) rank the nominees, and (c) select a finalist and an alternate. Notification of the award recipient will be made prior to the meeting of the National Association of State Universities and Land-Grant Colleges, November, 1987. During the PAWC, a nationally recognized scholar/practitioner will present the lecture at a special banquet session. The lecture will also be published in the proceedings.

Conference Memorial Lecture

The Memorial Lecture Series was added to the PAWC in 1986 and provide another entity to "spotlight" the unique resources at the 1890 land-grant universities in program design, implementation and evaluation. The Lecture and Luncheon will carry the name of an individual who, over his or her lifetime, contributed significantly to agriculture, teaching, research and extension at an 1890 land-grant institution or Tuskegee University. In 1986, Alabama A&M University and Tuskegee University selected the late Dr. C. A. Williams as the individual for whom the lecture should be named. During the 1987 PAWC, officials at the University of Arkansas at Pine Bluff will select the individual to be memorialized. In addition, the University of Arkansas will assist in securing the scholar to deliver the lecture. The lecture will be published in the proceedings.

Annual Christmas Concert

The world famous Tuskegee University choir will present its annual Christmas concert on Sunday, December 6, 1987 at 6:30 p.m. in the University Chapel. Chapel seating for the concert starts at 5:30 p.m. and we suggest that you come early. This is a treat that each conference participant should include in his or her schedule.

Meet the Participants

"Meet the Participants" reception will be held immediately following the December 6 Christmas concert (place to be announced).

Facilitators

Twelve facilitators will be selected for the PAWC sessions and their major responsibilites are to: Introduce session speakers, keep sessions moving and on schedule, and prepare a summary of the respective session. Interested individuals should submit the following information by *July 31, 1987*:

— Letter of intent to serve as a facilitator
— A copy ot your most recent vita

The envelope postmark dates will be used to determine selection priority.

Registration

All PAWC registration will be held in the new Chappie James Building on the Tuskegee University campus starting on Sunday, December 6, at 2:00 p.m. A fee of $115.00 includes banquet, luncheon(s), conference materials, "Meet the Participants" reception, Christmas concert, group picture, and a copy of the proceedings (additional copies of the proceedings can be ordered). A special registration fee of $50.00 is available for students and retirees. Please use the attached registration form for preregistration. The form can be duplicated and will serve as your invoice. If your organization has additional invoice requirements, please notify the PAWC Chairman on official stationery. Purchase Orders will be accepted for registration but *credit cards will not be honored.* Any special processing purchase orders should accompany the registration fee. When preregistering or registering upon arrival, we encourage payment by check rather than cash. Make check payable to *Tuskegee University/PAWC.* Registrations may be cancelled without penalty through October 14, 1987, after which registrants will forfeit 75% of the fee. Registration can be completed on Sunday, December 6, 1987 from 2:00-4:00 p.m. at the Chappie James Building on the Tuskegee campus.

Hotel Accommodations

To assure housing acccommodations, reservations should be made early with the hotel of your choice. In the past, PAWC participants have stayed at:

— Tuskegee Inn ..... (205) 727-5400
(about 5 miles north of campus, off I-85)

— Dorothy Hall Guest House, Tuskegee University ..... (205) 727-3400
(limited accommodations)

— Holiday Inn East, Montgomery, Alabama ..... (205) 272-0370
(about 40 miles west of campus)

— Econo Lodge, Shorter, Alabama ..... (205) 727-6034
(about 15 miles west of campus)

Please inform the hotel reservations desk that you will be attending the PAWC at Tuskegee University. The room rates are reasonable and food service is available.

Weather

In early December, visitors to Tuskegee University can expect mild weather ranging from 42° to 56° F.

Airline, Taxi and Rental Car Service

Tuskegee is served by the Montgomery or Atlanta Airports. There are a number of flights by Delta and Eastern into the Montgomery Airport daily. Airport limousine service is available from the Montgomery Airport to the hotels listed above. In addition, car rental agencies are located in the airport terminal. You can also fly into Atlanta and use rental of public transportation to motor the 145 miles from the Atlanta Airport to Tuskegee University.

Message Center

Moton Hall - Room 101 is the headquarters for messages. The telephone number is (205) 727-8764.

For additional Information Contact:

Dr. T. T. Williams, Director
Human Resources Development Center
and PAWC Program Coordinator
P.O. Box 681
Tuskegee Institute, Alabama 36088

Phone: (205) 727-8764

Human Resources Development Center

BACK STOCK

Title	ISBN	Price (Paperback)
Human Resources Development in Rural America—Myth or Reality LC# 86-050568	0-941875-01-X	$15.00
The Role of USDA, Land-Grant Universities and Other Agencies in Assisting Rural America—Research, Education and Technology Transfer LC# 84-80803	0-942875-02-8	15.00
Human Resources Development Center Annual Report, 1981	0-942875-03-6	15.00

45th PROFESSIONAL AGRICULTURAL WORKERS CONFERENCE
Theme: Keys To Rural Community Development
in the Southeastern United States

TUSKEGEE UNIVERSITY
December 6-8, 1987

Tentative Program Outline

FIRST DAY - SUNDAY, DECEMBER 6, 1987

Afternoon	— ARRIVAL
	— REGISTRATION
	— WALKING TOUR OF CAMPUS (Historic Sites)
Evening	
6:30-9:00	— CHRISTMAS CONCERT Tuskegee University Chapel
9:30	— MEET THE PARTICIPANTS

SECOND DAY - MONDAY, DECEMBER 7, 1987

Morning	
9:00-11:30	— PLENARY SESSION
11:45	— GROUP PICTURE (Front of Booker T. Washington Monument on the Tuskegee University campus)
12:00	— THE L. A. POTTS MEMORIAL LUNCHEON AND LECTURE (Place to be announced)
Afternoon	
2:00	— WORKING SESSIONS LED BY RESOURCE PERSONS IN THE REGION (Place to be announced)
Evening	
7:00	— THE GEORGE WASHINGTON CARVER HALL OF FAME BANQUET AND LECTURE (Place to be announced)

THIRD DAY - TUESDAY, DECEMBER 8, 1987

Morning	
8:30	— DISCUSSION SESSIONS LED BY RESOURCE PERSONS
12:00	MEMORIAL LECTURE AND LUNCHEON FOCUSING ON KEY DEVELOPMENT ISSUES (Place to be announced)
Afternoon	
2:00	— CONCLUDING REMARKS AND ADJOURNMENT

Date _____

45th PROFESSIONAL AGRICULTURAL WORKERS CONFERENCE
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CONTRIBUTED PAPERS: ABSTRACT
(Due August 15, 1987)

_____
(Senior Author) (Last name first) (Middle name &/or initials)

_____
(Second Author) (Third and additional authors)

_____
(Address of dept., institution, street, city, state, zip code)

[ ] _____
(Telephone Number) (Title of paper)

Type the entire abstract in the space below. It may be single-spaced.

Type of paper you will prepare (please check one).

	Yes	No
— Peer reviewed	( )	( )
— Non-peer reviewed	( )	( )

— Indicate any audio-visual equipment _____

Return to: Dr. T. T. Williams, Director
Human Resources Development Center
and PAWC Program Coordinator
P.O. Box 681
Tuskegee Institute, Alabama 36088
Telephone: (205) 727-8764

Date _____

45th PROFESSIONAL AGRICULTURAL WORKERS CONFERENCE
Theme: Keys To Rural Community Development
in the Southeastern United States

TUSKEGEE UNIVERSITY
December 6-8, 1987

SUBMISSION FORM
THE L. A. POTTS "SUCCESS STORY"
(Due September 30, 1987)

Program/Project Sponsor _____
(University or Community Organization)

Univ./Org. Unit _____

Address _____

_____

Title of Program/Project _____

Target/Impact Area _____

Area Designation Rural _____ Urban _____ Other _____

Contact Person _____
(Name and Title)

Telephone Number Office ( ) _____ Home ( ) _____

Explain how the Program/Project significantly improved the quality of life of the target group during 1987 (typed, double-spaced abstract, not to exceed 1,000 words, and attached to this form).

Will Program/Project Director or representative be in attendance at the 45th Professional Agricultural Workers Conference?
Yes _____ No _____

Individual submitting information _____
Signature

Return to: Dr. T. T. Williams, Director
Human Resources Development Center
and PAWC Program Coordinator
P.O. Box 681
Tuskegee Institute, Alabama 36088
Telephone: (205) 727-8764

Date _____

45th PROFESSIONAL AGRICULTURAL WORKERS CONFERENCE
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in the Southeastern United States

TUSKEGEE UNIVERSITY
December 6-8, 1987

FACT SHEET
NOMINATION FORM FOR THE GEORGE WASHINGTON CARVER
PUBLIC SERVICE HALL OF FAME AWARD
(Due October 5, 1987)

Name of Nominee _____
(Last) (First) (Middle)

Present Position _____

_____

Address (Street, City, State, Zip Code) _____

_____

Home Telephone _____ Office Telephone _____
(Area Code) (Area Code)

Name of Institution _____

Number of Years in Present Position _____
(Attach a 3" x 5" recent photograph [black and white] of the Nominee.)

Please answer on separate sheet(s) the following questions:

1. Explain how the nominee has been involved in public service activities designed to advance the quality of life for rural people.
2. List recognitions the nominee has received from his/her peer group for services rendered.
3. Briefly summarize two significant publications by the nominee. Emphasis should be placed on how such publications positively impacted rural people.
4. Describe community service (including action-oriented research) in which the nominee has been involved. The service should focus on the amelioration of constraints to rural community development.

Return to: Dr. T. T. Williams, Director
Human Resources Development Center
and PAWC Program Coordinator
P.O. Box 681
Tuskegee Institute, Alabama 36088
Telephone: (205) 727-8764

Date _____

REGISTRATION FORM
(Regular, Student and Retiree)

45th PROFESSIONAL AGRICULTURAL WORKERS CONFERENCE
Theme: Keys To Rural Community Development
in the Southeastern United States

TUSKEGEE UNIVERSITY
December 6-8, 1987

Pre-Registration Ends October 14, 1987
Form Can Be Duplicated
Complete All Blanks. Please Type or Print Clearly.

Name _____
(Last) (First) (Initial)

Address _____

City _____ State _____ Zip Code _____

Affiliation or Employer _____

Phone: Home _____ Office _____
(Area Code) (Area Code)

Spouse's Name (if attending) _____

Student or Retiree (List University or Supporting Information) _____

_____

Registration Fee Enclosed:
_____ Regular ($115) _____ Student/Retiree ($50)
Checks should be made payable to *Tuskegee University/PAWC.*

Return to: Dr. T. T. Williams, Director
Human Resources Development Center
and PAWC Program Coordinator
P.O. Box 681
Tuskegee Institute, Alabama 36088
Telephone: (205) 727-8764